UTAH VALLEY UNIVERSITY

MURDOCK GUEST HOUSE ADAPTIVE RE-USE

Orem, Utah

DFCM Project #08307790
12.19.2008

CODE ANALYSIS

APPLICABLE CODES

	Year		Year
International Building Code	2006	National Electrical Code	2005
International Mechanical Code	2006	Uniform Code for Building Conservation	2006
International Plumbing Code	2006	ADA Accessibility Guildelines	ICC/ANSI 117.1 2003
International Fire Code	2006		
International Energy Conservation Code	2006		

A. Occupancy and Group: B

Change in Use: Yes X No _____ Mixed Occupancy: Yes _____ No X

Special Use and Occupancy (e.g. High Rise, Covered Mall): NONE

B. Seismic Design Category: D Design Wind Speed: 90 mph

C. Type of Construction (circle one):

I A | I B | II A | II B | III A | III B | IV HT | V A | (V B)

D. Fire Resistance Rating Requirements for the Exterior Walls based on the fire separation distance (in hours):

North: 0 South: 0 East: 0 West: 0

E. Mixed Occupancies: NONE Nonseparated Uses: NONE

F: Sprinklers:

Required: NONE Provided: NONE Type of Sprinkler System: _____

G: Number of Stories: 2 Building Height: 25'

H: Actual Area per Floor (square feet): Main Floor 3,300 sf Basement 2,458 sf

I: Tabular Area: 5,758 sf

J: Area Modifications:

a) $A_a = A_t + \left[\frac{A_t I_f}{100}\right] + \left[\frac{A_t I_s}{100}\right]$ $\qquad I_f = 100\left[\frac{F}{P} - 0.25\right]\frac{W}{30}$

b) Sum of the Ratio Calculations for Mixed Occupancies:

$\frac{\text{Actual Area}}{\text{Allowable Area}} \leq 1$

c) Total Allowable Area for:

1) One Story: _____
2) Two Story: A_a (2) 9,000 sf
3) Three Story: A_a (3) _____

d) Unlimited Area Building: Yes _____ No X Code Section: _____

K. Fire Resistance Rating Requirements for Building Elements (hours).

Element	Hours	Assembly Listing	Element	Hours	Assembly Listing
Exterior Bearing Walls	0	NONE	Floors - Ceiling Floors	0	NONE
Interior Bearing Walls	0	NONE	Roofs - Ceiling Roofs	0	NONE
Exterior Non-Bearing Walls	0	NONE	Exterior Doors and Windows	0	NONE
Structural Frame	0	NONE	Shaft Enclosures	0	NONE
Partitions - Permanent	0	NONE	Fire Walls	0	NONE
Fire Barriers	0	NONE	Fire Partitions	0	NONE
			Smoke Partitions	0	NONE

L. Design Occupant Load: 58

Exit Width Required: 11.6" Exit Width Provided: 144"

M. Minimum Number of Required Plumbing Facilities:

a) Water Closets - Required (m) 1 (f) 1 Provided (m) 1 (f) 1
b) Lavatories - Required (m) 1 (f) 1 Provided (m) 1 (f) 1
c) Bath Tubs or Showers: _____
d) Drinking Fountains: 2 Service Sinks: 1

FOOTNOTES:

1) In case of conflict with the U.S. Department of Justice Federal Registers Parts I through V - ADA Guidelines and specific reference to the International Building Code Accessibility Chapters, the more restrictive requirement shall govern.

2) Additional Code Information shall be provided at the discretion of the Building Official for Complex Buildings. Including, but not limited to:
   a) High Rise Requirements.
   b) Atriums.
   c) Performance Based Criteria.
   d) Means or Egress Analysis.
   e) Fire Assembly Locator Sheet.
   f) Exterior and Interior Accessibility Route.
   g) Fire Stopping, Including Tested Design Number.

DRAWING INDEX

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SPECIAL INSPECTIONS

EPOXY (IBC 1704.13)

STRUCTURAL WOOD (IBC 1707.3)

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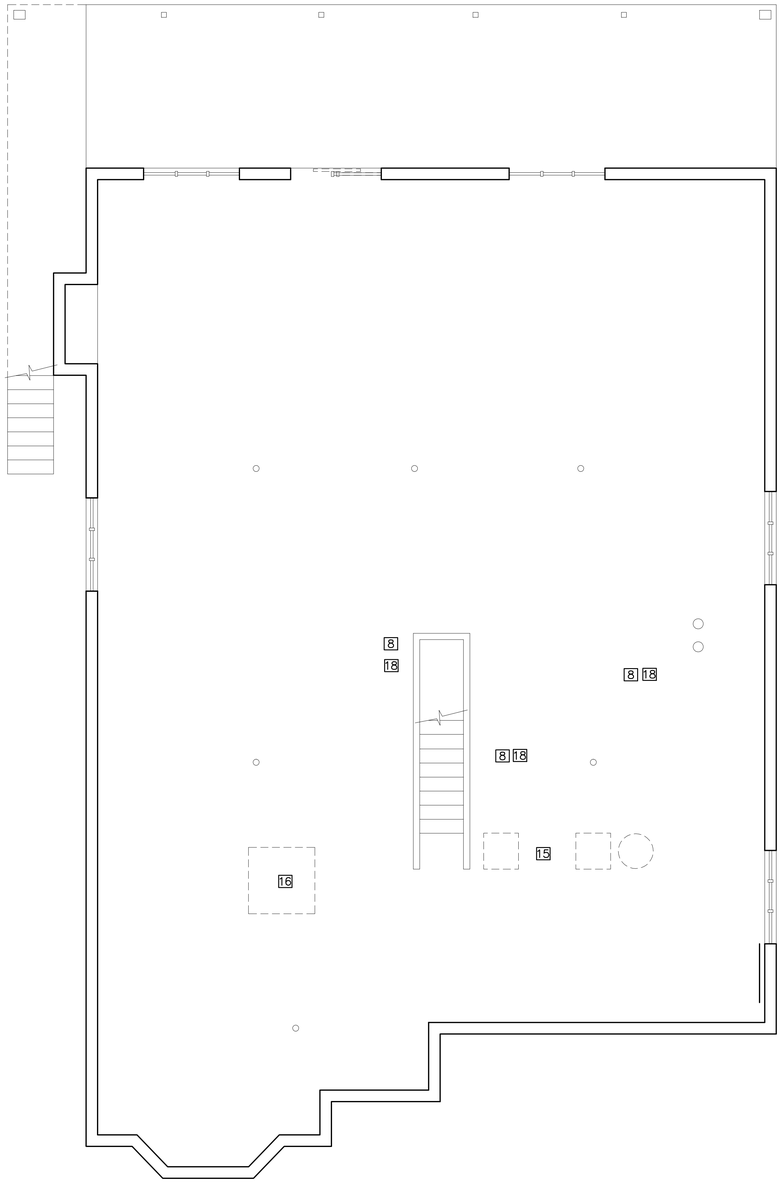
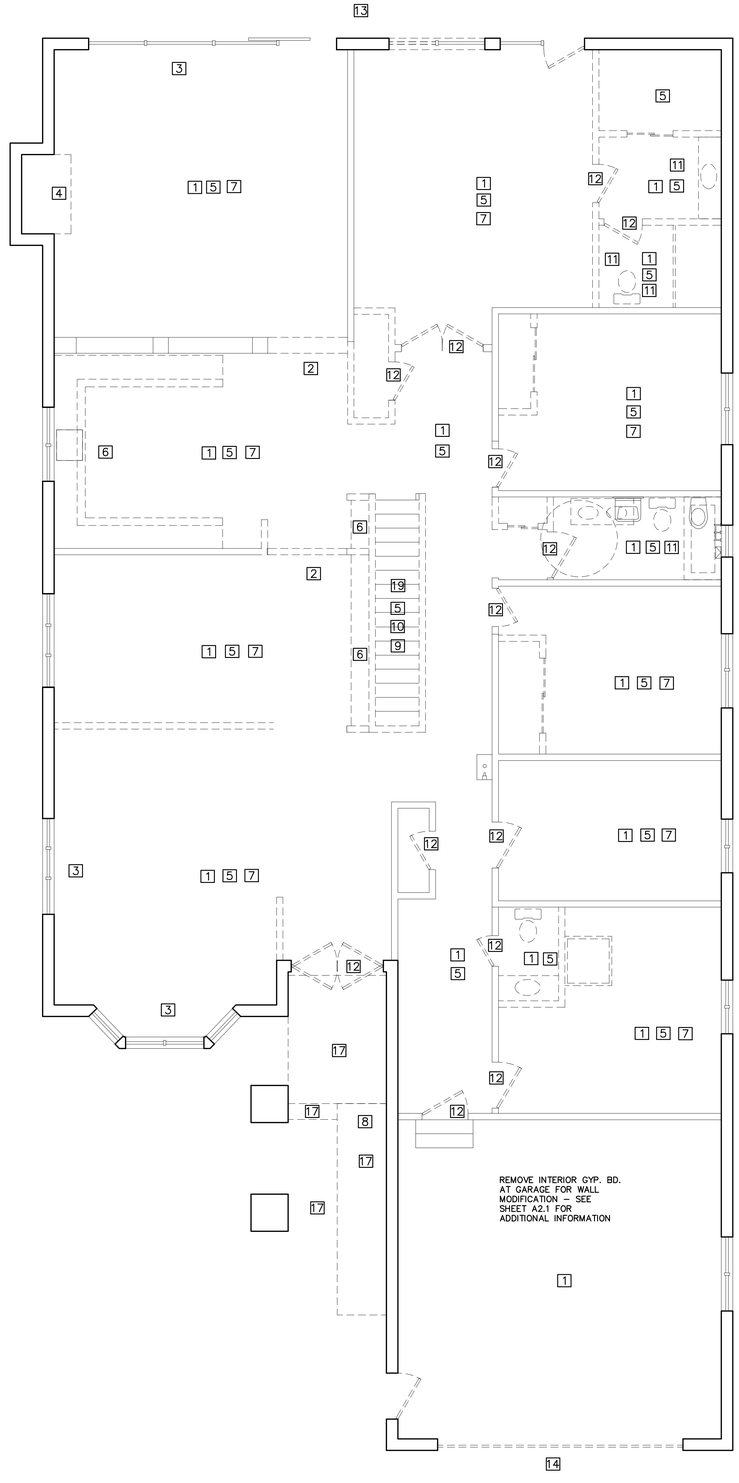
PHASE: BID SET
DATE: 12.19.08
DRAWING: COVER SHEET
SHEET #: A1.0



BASEMENT LEVEL DEMOLITION PLAN 02 A2.0
SCALE: 1/4"=1'-0"



LEVEL ONE DEMOLITION PLAN 01 A2.0
SCALE: 1/4"=1'-0"

DEMOLITION GENERAL NOTES

DASHED LINES INDICATE EXISTING CONSTRUCTION TO BE REMOVED – COORDINATE WITH NEW CONSTRUCTION REQUIREMENTS AND INQUIRE DURING BIDDING WHERE INCONSISTENCIES OR CONFLICTS OCCUR

PERFORM SELECTIVE DEMOLITION WHERE NOT INDICATED AS REQUIRED TO ACCOMODATE NEW CONSTRUCTION, FINISHES OR CODE REQUIREMENTS

SAVE MILLWORK TRIM AT DEMOLISHED WALLS FOR PATCHING AND REPAIR OF EXISTING TRIM WHERE GAPS WILL OCCUR ON REMAINING WALLS

DEMOLITION KEYED NOTES

1. REMOVE EXISTING LIGHT FIXTURES – CAP WIRES, PATCH & PREP HOLE FOR PAINT TO MATCH CEILING
2. REMOVE EXISTING ARCH HEADER – REPAIR AND PREP FOR PAINT TO MATCH CEILING
3. REMOVE EXISTING CURTAINS & RODS – REPAIR AND PREP FOR PAINT
4. REMOVE EXISTING HEARTH
5. REMOVE EXISTING FLOOR COVERING
6. REMOVE EXISITNG MILLWORK, FIXTURES & APPLIANCES
7. REMOVE EXISTING RADIANT BASE BOARD HEATERS
8. REMOVE EXISTING ADA RAMP
9. REMOVE EXISTING HANDRAIL
10. REMOVE TOP PORTION OF EXISTING WALL – TOP OF REMAINING HALF HEIGHT WALL TO BE AT 42" AFF
11. REMOVE EXISTING PLUMBING FIXTURES, PLUMBING LINES AND ACCESSORIES
12. REMOVE EXISTING DOORS AS INDICATED
13. REMOVE EXISTING EXTERIOR LIGHT FIXTURES CAP WIRES AND REPAIR EXTERIOR CLADDING
14. REMOVE EXISTING OVERHEAD GARAGE DOOR
15. REMOVE EXISTING BOILER, WATER HEATER, FURNACE & DUCTWORK
16. SAWCUT AND REMOVE CONCRETE SLAB TO ACCOMODATE NEW ADA LIFT PIT
17. REMOVE AND SALVAGE BRICK PAVERS FOR RE-INSTALLATION
18. SAWCUT CONCRETE SLAB AS REQUIRED FOR NEW FLOOR DRAINS AND DRINKING FOUNTAINS
19. REMOVE EXISTING HANDRAIL

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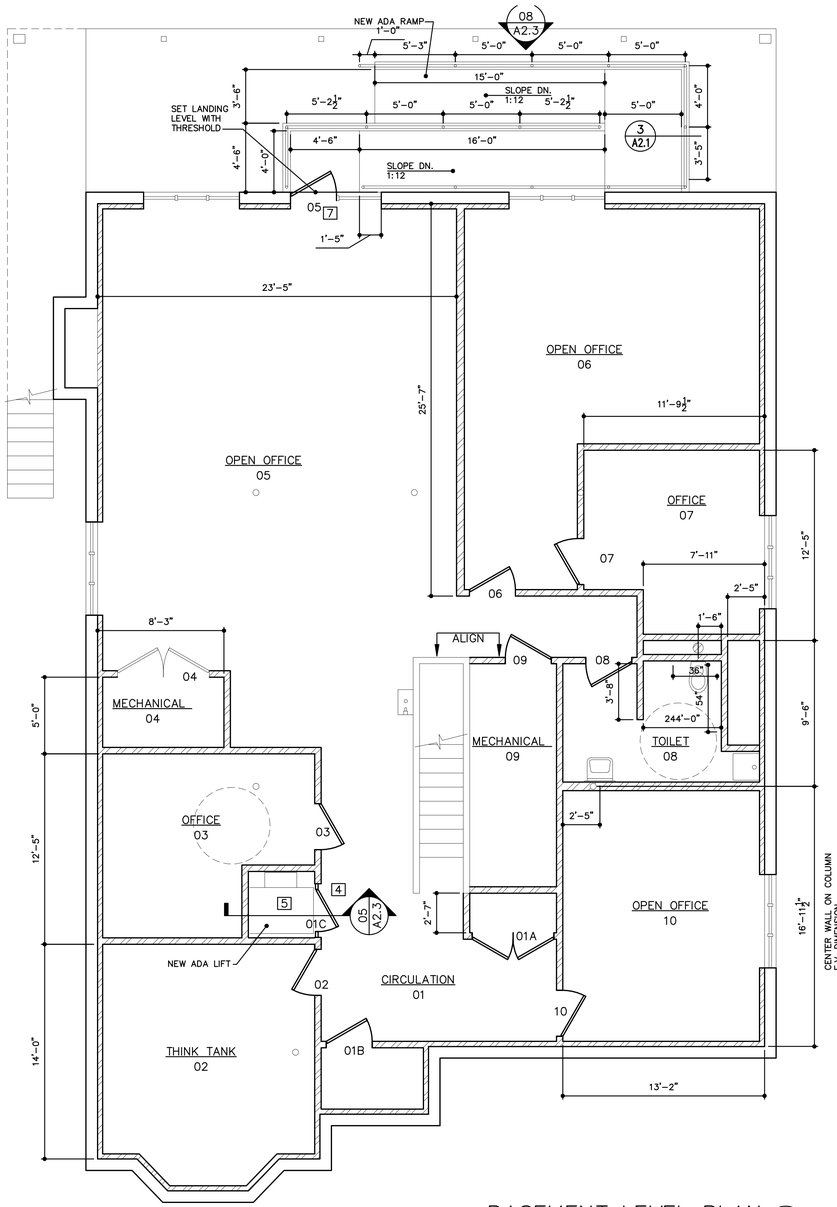
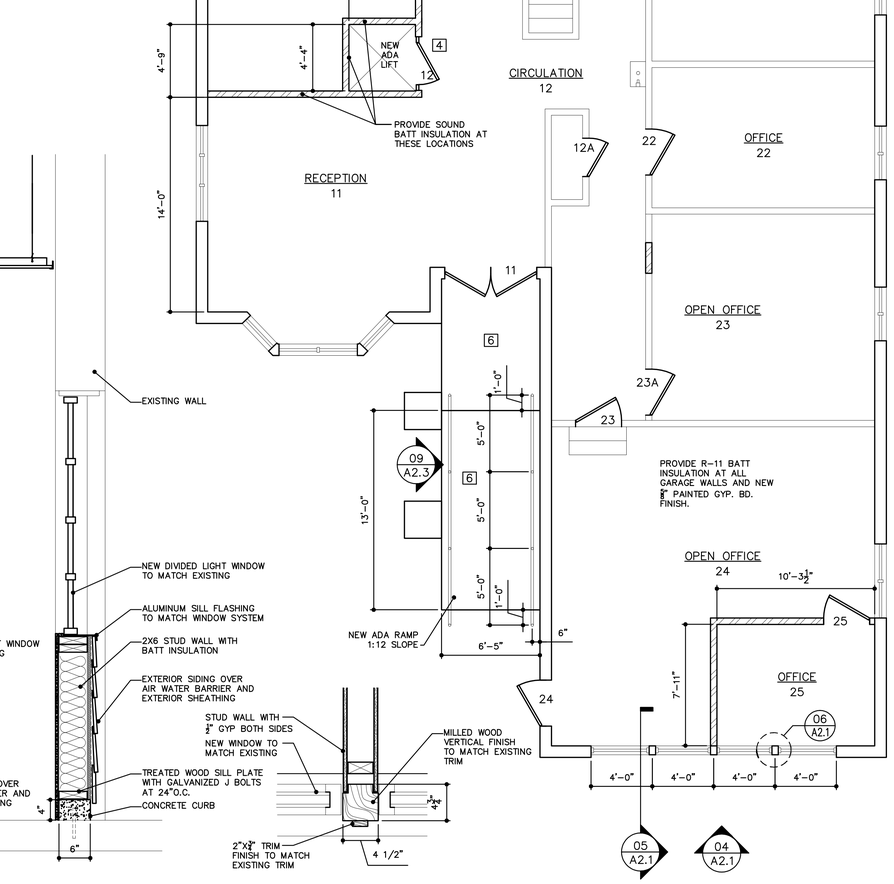
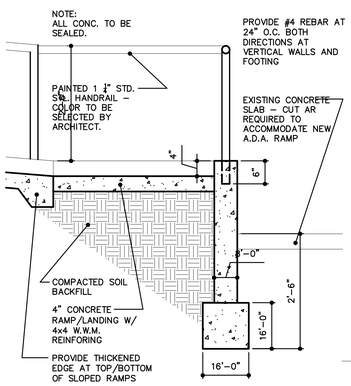
PHASE: BID SET
DATE: 12.19.08
DRAWING: DEMOLITON PLAN
SHEET #: A2.0



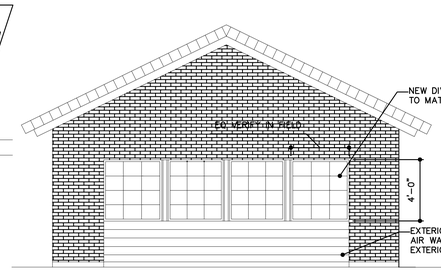
BASEMENT LEVEL PLAN (02 A2.1)
SCALE: 1/4"=1'-0"



LEVEL ONE FLOOR PLAN (01 A2.1)
SCALE: 1/4"=1'-0"



RAMP DETAIL – TYP. (03 A2.1)
SCALE: 3/4"=1'-0"



EXT ELEVATION (04 A2.1)
SCALE: 1/4"=1'-0"

WALL SECTION (05 A2.1)
SCALE: 1"=1'-0"

PLAN DETAIL (06 A2.1)
SCALE: 1 1/2"=1'-0"

GENERAL NOTES

CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS AND CONDITIONS AND COORDINATE WITH THE REQUIREMENTS OF NEW CONSTRUCTION

WHERE CONFLICTS OCCUR NOTIFY OWNER OR ARCHITECT FOR RESOLUTION

PLAN KEYED NOTES

1. NEW ⅞" FURRING AND PAINTED GYP BOARD MILLWORK TRIM TO MATCH ADJACENT WALLS
2. NEW TOP PLATE WITH PAINTED GYP FINISH AT 42" AFF AT TOP OF PARTIAL HEIGHT WALL
3. NEW BASE CABINETS
4. NEW ADA LIFT WITH MANUFACTURERS DOOR ASSEMBLY AND HARDWARE IN STUDWALL & GYP ENCLOSURE – COORDINATE LIFT, FLOOR OPENING, NEW STRUCTURAL FRAMING, AND HOISTWAY
5. NEW DEPRESSED SLAB AT HOISWAY SLAB TO BE 4" THICK – COORDINATE DEPRESSION DEPTH WITH LIFT
6. NEW ADA RAMP – AFTER REMOVING BRICK PAVERS RAISE LANDING WITH 3" CONCRETE TOPPING SLAB AND RE-INSTALL PAVERS FLUSH WITH EXISTING THRESHOLD. POUR NEW SLOPED TOPPING SLAB AT RAMP AND RE-INSTALL PAVERS
7. NEW SWINGING DOOR AND SIDELITE – SIDELITE TO MATCH EXISTING WINDOW SYSTEM
8. PATCH AND REPAIR CONCRETE SLAB AT SAWCUT AREAS AFTER FLOOR DRAINS AND PLUMBING IS INSTALLED
9. NEW HANDRAIL – BOTH SIDES OF STAIR

WALL TYPE NOTES:

ALL NEW FRAMING TO EXTEND TO STRUCTURE ABOVE OR BE BRACED IN ALTERNATING FASHION AT 4'-0" O.C.

ALL FURRING AT EXTERIOR WALLS SHALL BE 2X4 WOOD STUDS @ 24" O.C. WITH R-11 BATT INSULATION

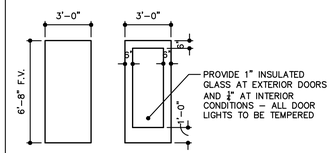
NEW INTERIOR STUD PARTITIONS SHALL BE 2X4 WOOD STUDS @ 16" O.C. WITH SOUND BATT INSULATION WHERE INDICATED WITH PAINTED ⅝" GYP. BD. EACH SIDE. GYP. BD. AT MECHANICAL CHASES TO BE AT EXTERIOR SIDE ONLY.

WHERE NEW WALLS OR PORTIONS OF WALL ARE ALIGNED WITH EXISTING PARTITIONS, STUD SIZE AND GYP. BD. THICKNESS SHALL MATCH EXISTING CONDITION.

DOOR SCHEDULE:

NOTE:
COORDINATE DOOR HARDWARE WITH SPECIFICATION. ALSO COORDINATE REPLACEMENT DOORS WITH SIZE OF EXISTING OPENING.

DOOR #	TYPE	NOTE
01A	A	PAIR
01B	A	
01C	A	
02	B	
03	B	
04	A	PAIR
05	B	HARDWARE GROUP AL01
06	B	
07	B	
08	A	AUTO DOOR OPENER
09	A	
10	B	
11	B	PAIR WITH AUTO DOOR OPENER
12	A	
12A	A	HARDWARE GROUP 05
13	B	
14		NOT USED
15	B	
16		NOT USED
17	B	
18A	B	
18B	B	
19	B	
20	A	AUTO DOOR OPENER
21	B	
22	B	
23	B	
23A	A	HARDWARE GROUP 07
24	A	
25	B	



SOLID CORE WOOD DOOR SMOOTH FACE

SOLID CORE WOOD DOOR WITH LIGHT SMOOTH FACE

NOTE:
NEW DOORS TO BE 3'-0" WIDTH. CONTRACTOR TO FIELD VERIFY WIDTHS OF REPLACEMENT DOORS AT EXISTING CONDITIONS. ALL DOORS TO MATCH EXISTING HEIGHT.

ENHANCED ACCESSIBILITY COMPLIANCE

AUTO DOOR OPENERS HAVE BEEN ADDED TO THE MAIN ENTRANCE AS WELL AS BOTH TOILET ROOMS

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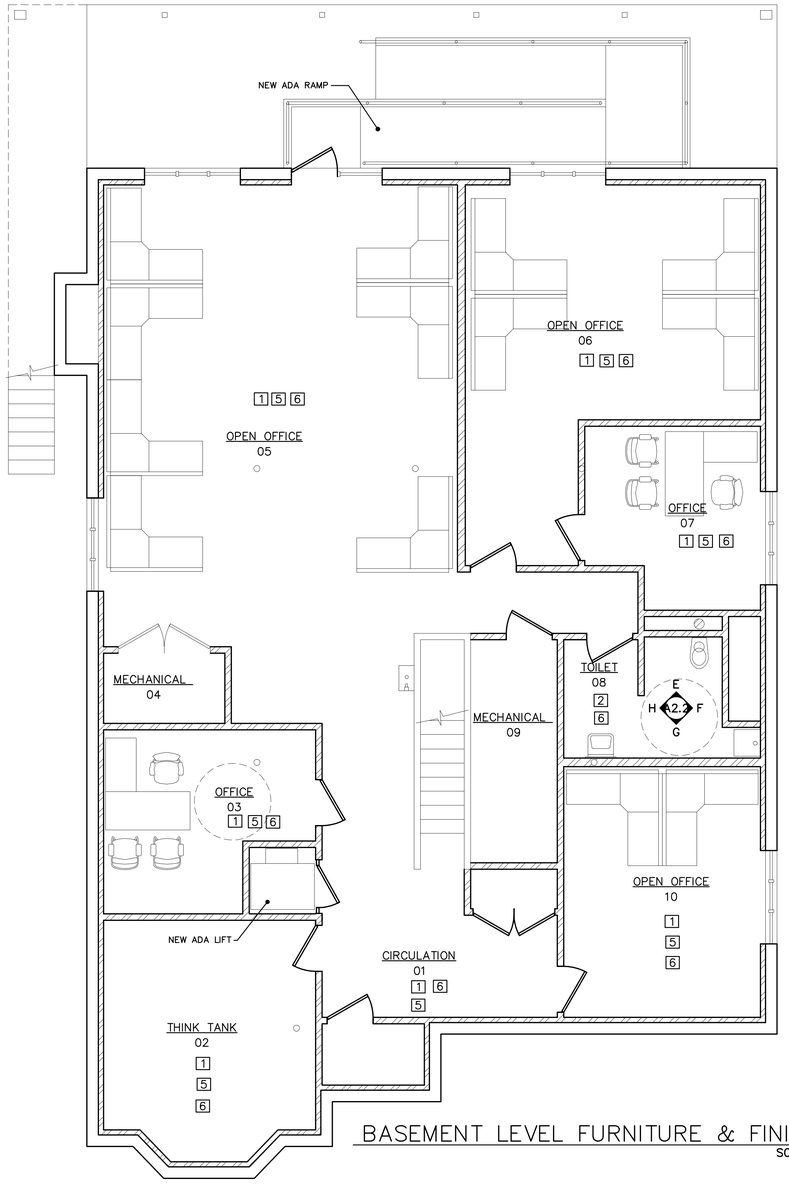
PHASE: BID SET
DATE: 8.19.08
DRAWING: FLOOR PLAN
SHEET # A2.1

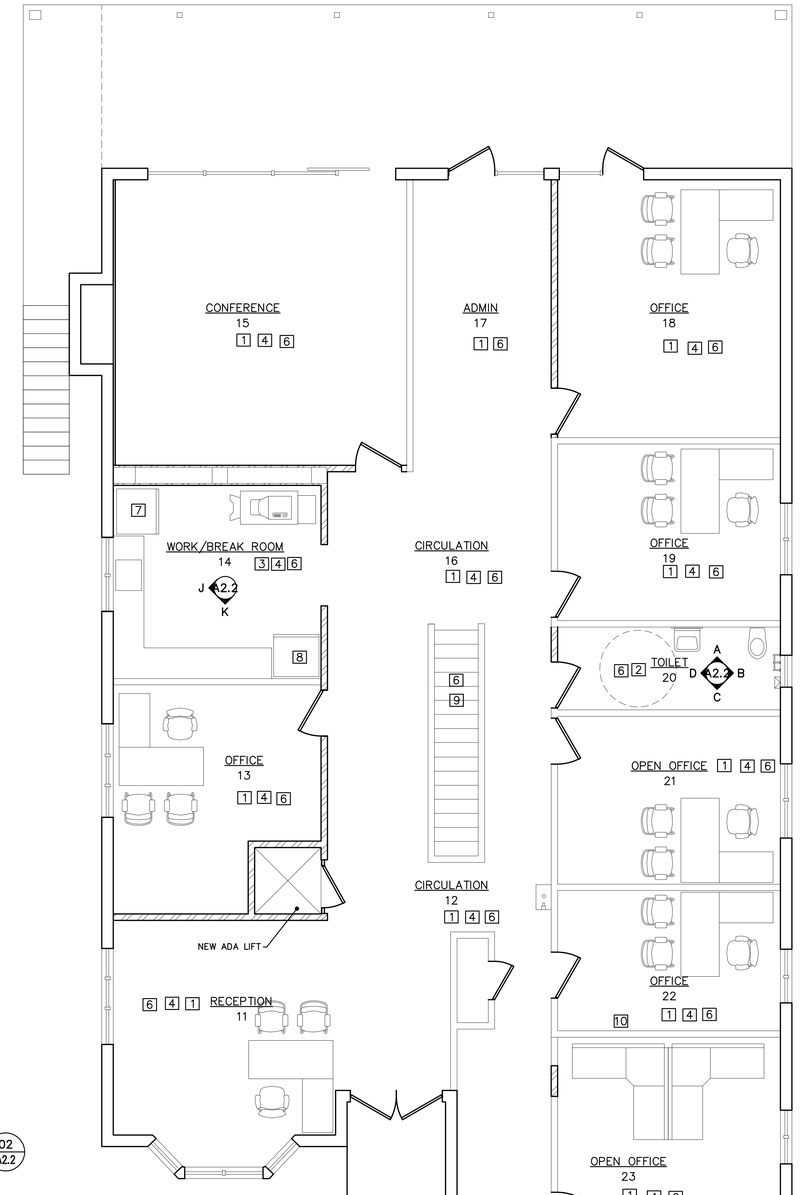
FURNITURE & FINISH PLAN KEYED NOTES

1. NEW CARPET
2. NEW FLOOR TILE & TILE WAINSCOTE
3. NEW VCT
4. NEW WOOD BASE TO MATCH EXISTING
5. NEW RUBBER BASE
6. PAINT AT ALL NEW & EXISTING GYP AND WOOD TRIM
7. REFRIGERATOR BY OWNER
8. VENDING MACHINE BY OWNER
9. NEW HARDWOOD TREAD AT EACH STEP – COLOR & FINISH TO MATCH NEW DOORS
10. NEW PAINTED DRYWALL AT SHEARWALL

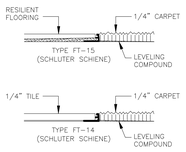
GENERAL: FURNITURE BY OWNER COORDINATE WITH OWNER FOR FINAL LOCATION AND ELECTRICAL CONNECTIONS



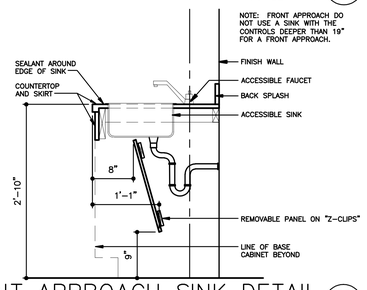
BASEMENT LEVEL FURNITURE & FINISH PLAN 02 A2.2
SCALE: 1/4"=1'-0"



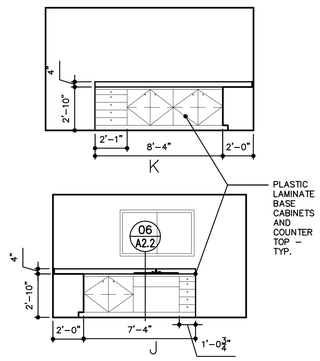
LEVEL ONE FURNITURE & FINISH PLAN 01 A2.2
SCALE: 1/4"=1'-0"



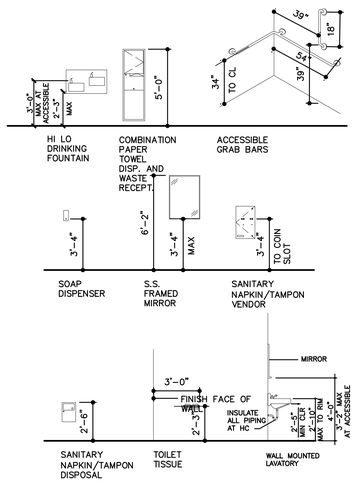
INTERIOR THRESHOLD DETAILS 07 A2.2
SCALE: NTS



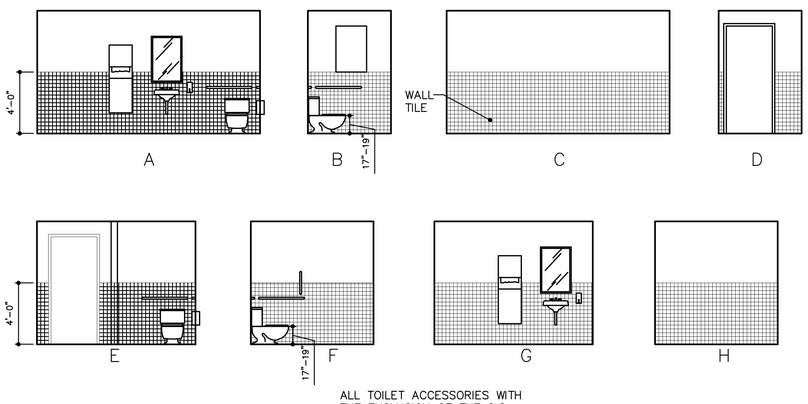
FRONT APPROACH SINK DETAIL 06 A2.2
SCALE: 1"=1'-0"



MILLWORK ELEVATIONS 05 A2.2
SCALE: 1/4"=1'-0"



TYP. A.D.A. MOUNTING HGTS. 04 A2.2
SCALE: 1/4"=1'-0"



ALL TOILET ACCESSORIES WITH THE EXCLUSION OF THE S.S. MIRROR ARE OWNER PROVIDED. INSTALLATION OF ALL ACCESSORIES TO BE PROVIDED BY CONTRACTOR.

T.R. ELEVATIONS 03 A2.2
SCALE: 1/4"=1'-0"

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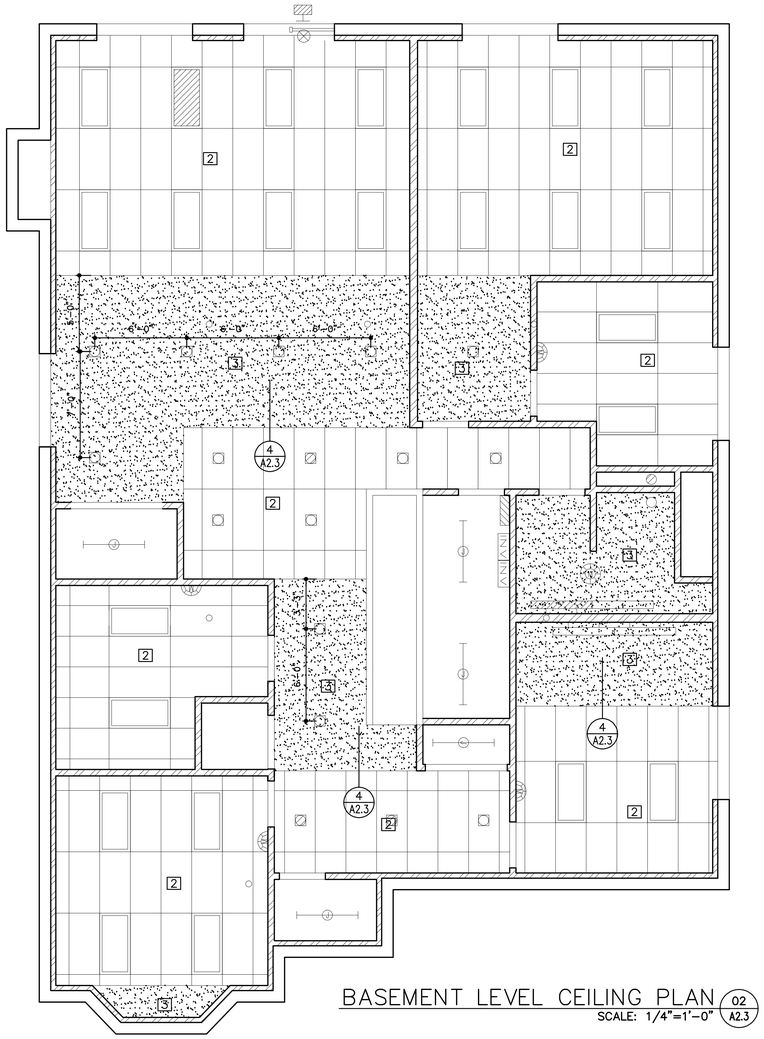
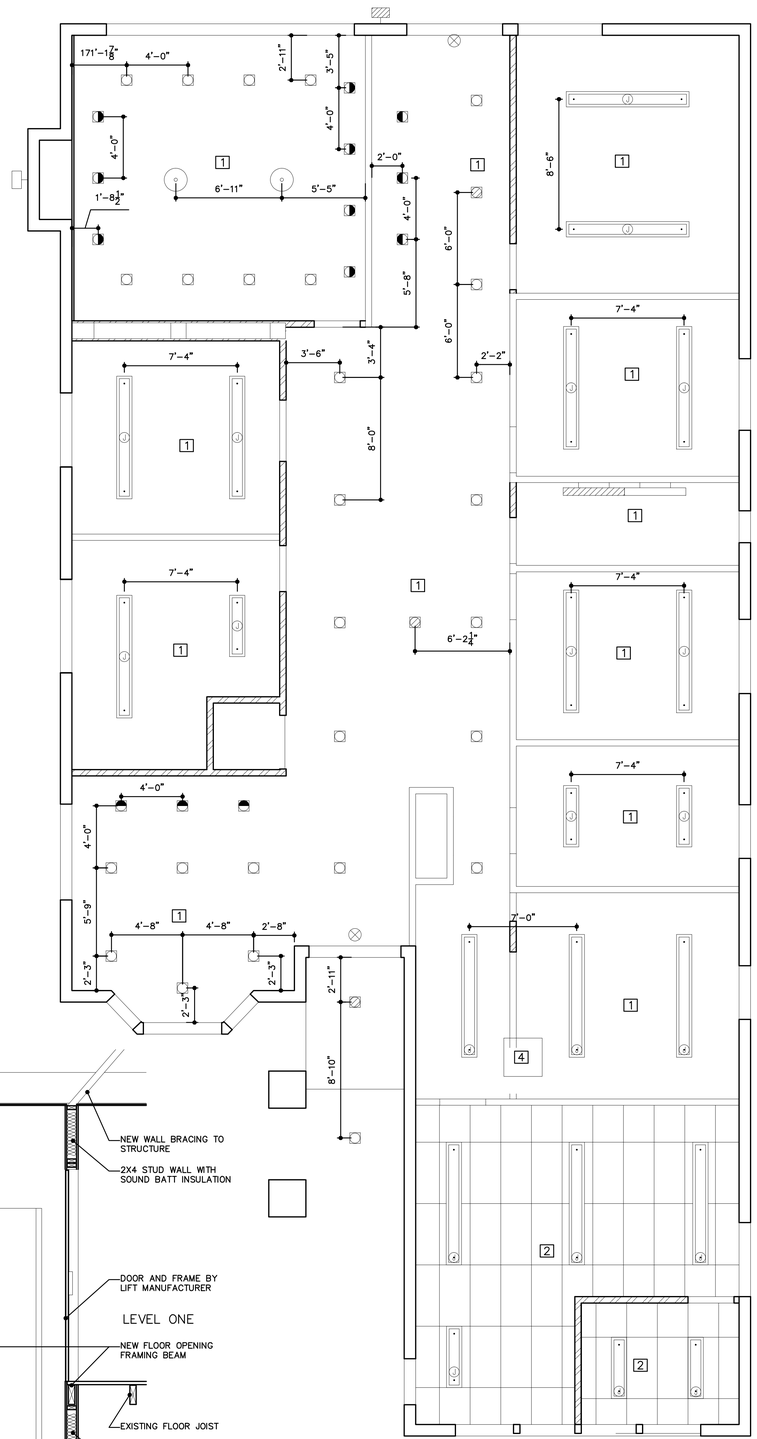
PHASE: BID SET
DATE: 12.19.08
DRAWING: FURNITURE & FINISH PLAN
SHEET # A2.2



BASEMENT LEVEL CEILING PLAN 02 A2.3
SCALE: 1/4"=1'-0"



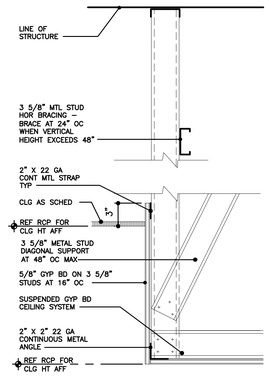
LEVEL ONE CEILING PLAN 01 A2.3
SCALE: 1/4"=1'-0"

CEILING GENERAL NOTES

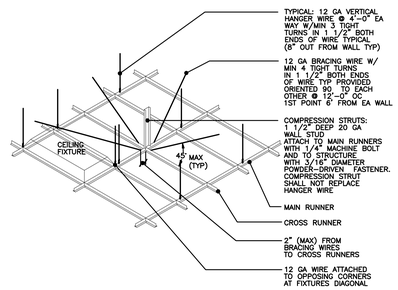
WHERE NOT NOTED OTHERWISE FIXTURES OR FIXTURE GROUPS ARE CENTERED IN ROOMS OR ACCORDING TO LAY IN CEILING LAYOUT

CEILING KEYED NOTES

1. EXISTING GYP CEILING – PATCH AND REPAIR AS REQUIRED FOR NEW PAINT
2. NEW 2X4 LAY IN CEILING AT 8'-0" AFF
3. NEW GYP CEILING AT 7'-0" AFF
4. NEW 30" X 30" ATTIC ACCESS HATCH WITH 2X4 FRAMING AS REQUIRED AND REMOVABLE OR HINGED ACCESS PANEL



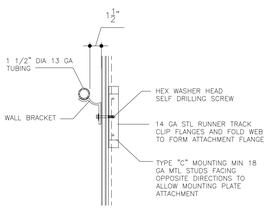
SOFFIT DETAIL 4 A2.3
SCALE: 1 1/2"=1'-0"



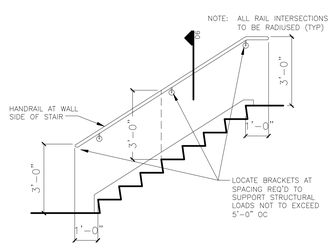
NOTES

1. ICBO (INTERNATIONAL COUNCIL OF BUILDING OFFICIALS) EVALUATION REPORT – 4071 GYPSUM WALLBOARD (066). (THIS REPORT HAS THE SAME REQUIREMENTS FOR GYP BD CEILINGS & LAY-IN CEILING.
2. ALL LATERAL SUPPORTS MUST BE LOCATED A MIN OF 6" (152mm) FROM HORIZONTAL UNBRACED PIPES AND DUCTWORK.
3. VERTICAL STRUTS FASTENED TO THE MAIN RUNNER SHALL BE EXTENDED TO AND FASTENED TO THE STRUCTURAL MEMBERS SUPPORTING THE ROOF OR FLOOR ABOVE. THE STRUT SHALL BE ADEQUATE TO RESIST THE VERTICAL LOAD INDUCED BY THE BARRIER WIRES.
4. THE VERTICAL STRUTS AT HORIZONTAL RESTRAINT POINTS SHALL BE PLACED 12'-0" (3658mm) OC IN BOTH DIRECTIONS, WITH THE FIRST POINT WITHIN 6'-0" (1830mm) FROM EACH WALL.

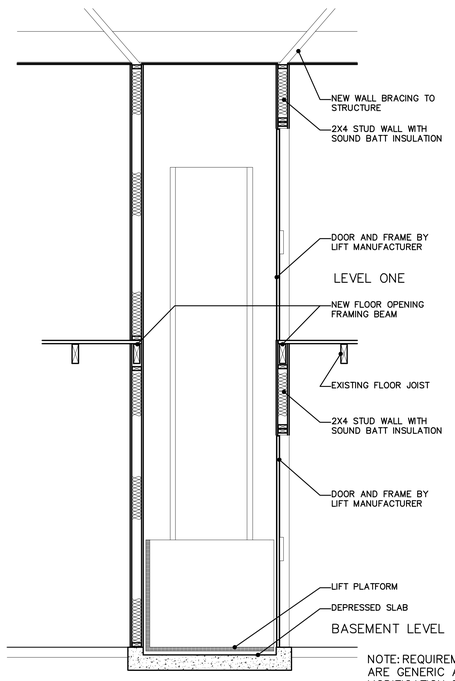
SEISMIC GRID DETAIL 3 A2.3
SCALE: NTS



HANDRAIL DETAIL 07 A2.3
SCALE: 1 1/2"=1'-0"

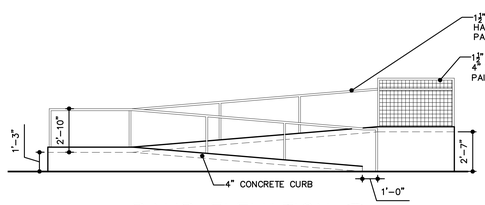


TYPICAL STAIR HANDRAIL 06 A2.3
SCALE: 3/8"=1'-0"

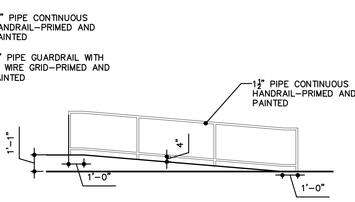


ADA LIFT SECTION 05 A2.3
SCALE: 1/2"=1'-0"

NOTE: REQUIREMENTS FOR ADA LIFT ARE GENERIC AND MAY REQUIRE MODIFICATION FOR ACTUAL LIFT MANUFACTURER & MODEL TO BE INSTALLED – CONTRACTOR TO COORDINATE



RAMP ELEVATION 08 A2.3
SCALE: 1/4"=1'-0"



RAMP ELEVATION 09 A2.3
SCALE: 1/4"=1'-0"

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PHASE: BID SET
DATE: 12.19.08
DRAWING: CEILING PLAN
SHEET # A2.3

GENERAL STRUCTURAL NOTES

GENERAL

1. The structural notes are intended to complement the project specifications. Specific notes and details in the drawings shall govern over the structural notes and typical details.
2. Typical details and sections shall apply where specific details are not shown.
3. The contractor shall verify all site conditions and dimensions. If actual conditions differ from those shown in the contract drawings, the contractor shall immediately notify the architect/engineer before proceeding with the fabrication or construction of any affected elements.
4. Changes to these contract drawings may be made only by an authorized representative of Dunn Associates, Inc. Dunn Associates, Inc. shall not be held responsible or liable for any claims arising directly or indirectly from changes made without written authorization by an authorized representative of Dunn Associates, Inc.
5. Omissions or conflicts between the contract drawings and/or specifications shall be brought to the attention of the architect/engineer before proceeding with any work involved. In case of conflict, follow the most stringent requirement as directed by the architect/engineer at no additional cost to the owner.
6. The contractor shall submit a written request to the architect/engineer before proceeding with any changes, substitutions, or modifications. Any work done by the contractor before receiving written approval will be at the contractor's risk.
7. The contractor shall coordinate with all trades any items that are to be integrated into the structural system such as openings, penetrations, mechanical and electrical equipment, etc. Sizes and locations of mechanical and other equipment that differs from those shown on the contract drawings shall be reported to the architect/engineer.
8. The contractor shall be responsible for means, methods, techniques, sequences, and procedures in order to comply with the contract drawings and specifications. The contractor shall provide adequate shoring and bracing as required for the chosen method of erection. Shoring and bracing shall remain in place until final connections for the permanent members are completed. The building shall not be considered stable until all connections are completed.
9. Site observations by a field representative of Dunn Associates, Inc. shall not be construed as approval of construction, the procedures, nor special inspection.
10. The structural drawings shall be used in conjunction with the architectural and other consultant's drawings. Most dimensions and most non-structural elements such as elevations, depressions, slopes, mechanical housekeeping pads, etc. are not shown in the structural drawings. See the Architectural Drawings for dimensions, doors, windows, non-bearing interior and exterior walls, elevations, slopes, stairs, curbs, drains, recesses, depressions, railings, waterproofing, finishes, chamfers, kerfs, etc.
11. All work shall be done in accordance with OSHA requirements. Potential conflicts between these documents and OSHA requirements shall be brought to the attention of the structural engineer before proceeding with the work.

BASIS OF DESIGN

1.	Governing Building Code	International Building Code 2006 ASCE 31 Seismic Evaluation of Existing Buildings 2003 ASCE 41 Seismic Rehabilitation of Existing Buildings 2006
2.	Earthquake Design Data	
2.1.	Occupancy Category	II
2.2.	Mapped Spectral Response Accelerations	
2.2.1.	Short Period Acceleration	S_S = 1.149
2.2.2.	1-Second Acceleration	S_1 = 0.482
2.3.	Site Class (Soil Profile)	D Assumed (Contractor to Verify)
2.4.	Spectral Response Coefficients	
2.4.1.	Short Period Acceleration	S_{DS} = 0.797
2.4.2.	1-Second Acceleration	S_{D1} = 0.488
2.5.	Effective Seismic Weight of the Structure	W
2.6.	Basic Seismic Force Resisting System	Structural Wood Panel Shearwalls and Diaphragms
2.7.	Analysis Procedure	ASCE 31 Tier 1 ASCE 41

CONCRETE

1. Materials unless noted otherwise:
   - 1.1. Normal Weight aggregates — ASTM C 33
   - 1.2. Fly Ash, Class F Pozzolan — ASTM C618
   - 1.3. Reinforcing Steel — ASTM 615 Grade 60 (60 ksi)
   - 1.4. Anchor Bolts
     - 1.4.1. ASTM F1554 Grade 36 (equiv to A36 or A307) with ASTM A563 heavy hex nuts with hardened washers Grade A.
   - 1.5. Admixtures: Air-entraining admixtures shall comply with ASTM C 260 (when used). Calcium chloride shall not be added to the concrete mix.
   - 1.6. Type I/II cement complying with ASTM C-150 shall be used for all concrete unless other types are required by the soils report.
   - 1.7. The water/cement ratio for concrete 4000 psi and greater shall not exceed 0.50 (grout mixes are excluded).
   - 1.8. The slump of all concrete shall be limited to 4" unless plasticizers are used.
   - 1.9. Provide air entraining as recommended by ACI 318.
   - 1.10. Air entrainment shall be adjusted for the use of admixtures and fly ash.
   - 1.11. Fly Ash shall be a maximum of 20% of the cementitious material.
   - 1.12. No aluminum conduit or product containing aluminum or any other material injurious to concrete shall be embedded in concrete.
2. Compressive strengths of concrete at 28 days shall be as follows:
   - 2.1. Footings — 3000 psi
3. The contractor shall be responsible for the design, detailing, care, placement and removal of all formwork and shores.
4. Reinforcement shall have the following concrete cover:
   - 4.1. Cast-in-place Concrete — Clear Cover
     - 4.1.1. Cast against and permanently exposed to earth — 3"
     - 4.1.2. Formed concrete exposed to earth or weather:
       - #5 and smaller bars — 1½"
5. Construction
   - 5.1. Use chairs or other support devices recommended by the CRSI to support bar and tie reinforcement bars prior to placing concrete.
6. Detailing:
   - 6.1. Lap lengths shall be as follows: #3 = 22" #4 = 29" #5 = 36"
     - 6.1.1. Do not splice stirrups and ties.

POST-INSTALLED ANCHORS

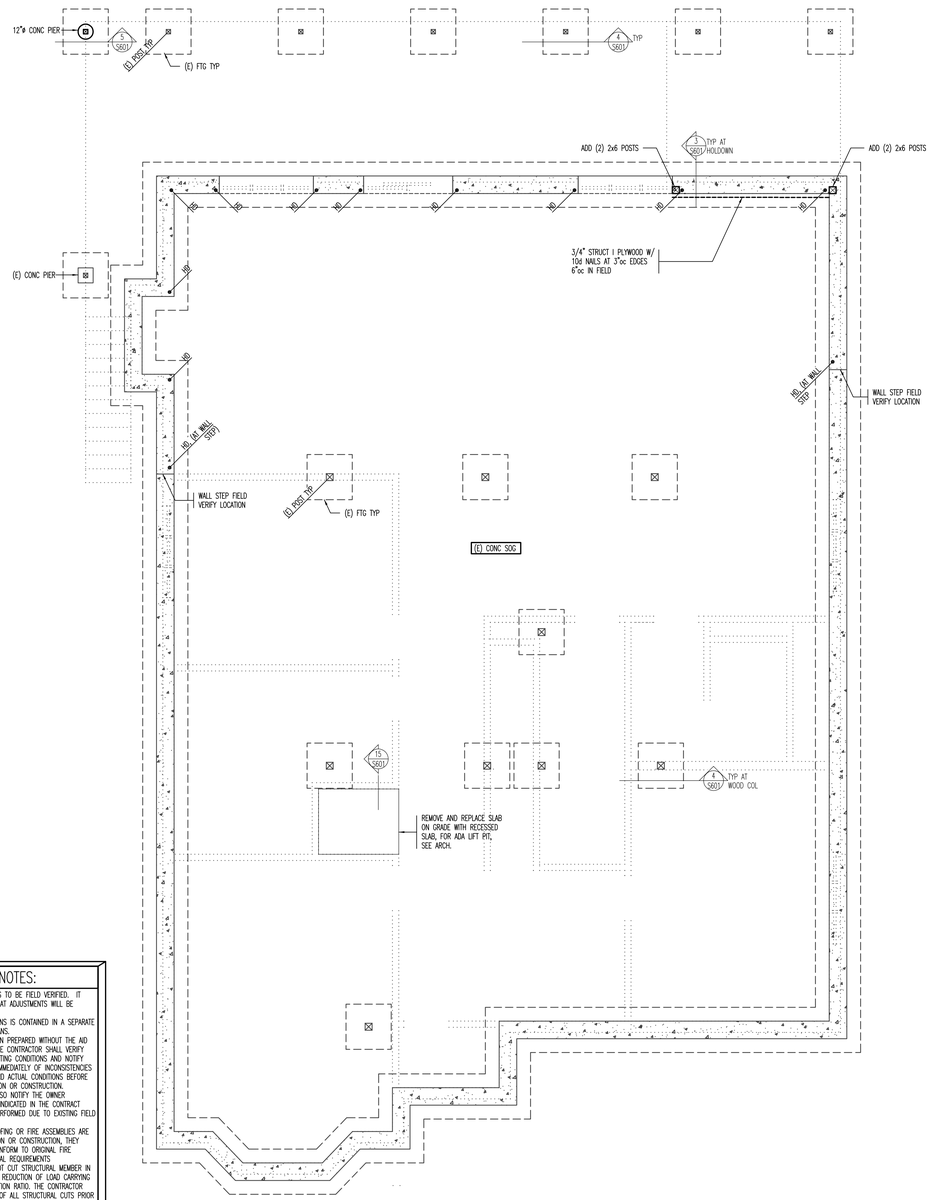
1. Follow all ICC Evaluation Report and manufacturers' requirements and recommendations for post-installed anchor installation. Where conflicts may exist, the most stringent requirement applies.
2. Follow manufacturer and ICC evaluation report requirements for installation temperature of adhesive anchors. Adhesive anchors shall not be installed or cured outside of approved temperature ranges.
   - 2.1. Adhesive anchors in concrete shall be one of the following:
     - 2.1.1. HIT RE-500 SD by Hilti (ESR-2322) - normal weight concrete only
     - 2.1.2. SET-XP by Simpson (ESR-2508) ⚠
   - 2.2. Adhesive anchors in grouted masonry shall be one of the following:
     - 2.2.1. HIT HY-150 MAX by Hilti (ESR-1967)
     - 2.2.2. SET by Simpson (ESR-1772)
3. Mechanical (Expansion) anchors
   - 3.1. Mechanical anchors in concrete shall be
     - 3.1.1. Kwik Bolt TZ by Hilti (ESR-1917)
   - 3.2. Mechanical anchors in grouted masonry shall be
     - 3.2.1. Kwik Bolt 3 by Hilti (ESR-1385)
4. The Contractor may submit, for review and approval, the manufacturer's ICC evaluation report of alternate anchor systems. The alternate method shall provide minimum capacities equal to or greater than those in the above noted anchors. The alternate method shall be approved by the engineer of record prior to the substitution.
5. Special Inspection and Testing
   - 5.1. Special inspection shall be performed according to the requirements of the ICC evaluation report, per section 1704.13 of the IBC.
   - 5.2. Testing shall be done according to the more stringent requirements of the ICC evaluation report and the values listed below.
     - 5.2.1. Adhesive Anchors in Concrete
     - 5.2.2. 50% of anchors in non-redundant elements (e.g. column, brace connections, boundary steel, hold-downs) and 10% of anchors in redundant elements shall be tension tested at 4.0 Kips.
     - 5.2.3. Mechanical anchors shall be tension tested to twice the allowable tension load listed in the ICC evaluation report.

LEGEND OF MARKS AND ABBREVIATIONS

AB	Anchor Bolt	JST	Joist
ABV	Above		
ALT	Alternate	K	Kip(S) = 1000 Pounds
ARCH	Architect		
		LB	Pounds (#)
BLDG	Building	LOC	Location
BLK	Blocking	LVL	Laminated Veneer Lumber
BLW	Below		
BM	Beam	MAS	Masonry
BRG	Bearing	MAX	Maximum
BTWN	Between	MECH	Mechanical
		MFR	Manufacturer
CL	Center Line	MIN	Minimum
CMU	Concrete Masonry Unit	MISC	Miscellaneous
COL	Column	MTL	Metal
CONC	Concrete		
CONN	Connection	NTS	Not To Scale
CONT	Continuous		
COORD	Coordinate	oc	On Center
CS	Coil Strap	OPNG	Opening
CTR	Center	OPP	Opposite
		OSB	Orientated Strand Board
DET	Detail		
DIA	Diameter	PERP	Perpendicular
DIM	Dimension	PFT	Pre-Fabricated Truss
DWG	Drawing	PL	Plate
		PLF	Pounds per Lineal Foot
(E)	Existing	PSF	Pounds per Square Foot
EA	Each	PSI	Pounds per Square Inch
ELEC	Electrical		
EN	Edge Nail	REINF	Reinforce
ENGR	Engineer	REQD	Required
EQ	Equal		
EW	Each Way	SCHED	Schedule
EXT	Exterior	SIM	Similar
		SOG	Slab on Grade
FLR	Floor	STD	Standard
FND	Foundation	STL	Steel
FTG	Footing	STRUCT	Structural
		SW	Shear Wall
GLB	Glued Laminated Beam		
GSN	General Structural Notes	T&B	Top and Bottom
		THRU	Through
HD	Hold-down	TYP	Typical
HORIZ	Horizontal		
		UNO	Unless Noted Otherwise
ICBO	International Conference Of Building Officials	VERT	Vertical
IBC	International Building Code		
INT	Interior	W/	With

QUALITY ASSURANCE PLAN/SPECIAL INSPECTION REQUIREMENTS

1. Special inspection and testing as required by the IBC shall be provided by an independent agency employed by the owner unless waived by the building official. The contractor shall coordinate and cooperate with the required inspections/tests as indicated below, referring to the IBC section indicated as appropriate. Special inspection reports from the inspector shall be sent to the engineer and building official, bringing any discrepancies to the contractor's immediate attention. Any uncorrected discrepancies shall be brought to the attention of the engineer and building official prior to completion of that phase of the work. A final report documenting required special inspections and corrections of any discrepancies shall be provided (1704.1.2).
2. Section 1707: Special Inspections for Seismic Resistance
   - 2.1. Structural wood (1707.3): Periodic special inspection is required for nailing, bolting, anchoring and other fastening of components within the seismic-force-resisting system, including wood shear walls, and hold-downs.
     - 2.1.1. Verify wood panel thickness and grade (APA stamp).
     - 2.1.2. Verify nominal size of framing members at panel edges, nail/staple diameter and length, the number of fastener lines, and fastener spacing.
3. Structural Observations for Seismic Resistance: Contractor shall notify the engineer at least 2 days prior to the following stages of construction so the engineer may have the opportunity to review the work. Observation reports shall be sent to architect, contractor and building official.
   - 3.1. After preliminary demolition and original structural framing and roof/wall nailing is visible.
   - 3.2. Initial wood framing
   - 3.3. Initial finish work



PLAN NOTES:

1. THE INFORMATION SHOWN IS TO BE FIELD VERIFIED. IT SHOULD BE ANTICIPATED THAT ADJUSTMENTS WILL BE NECESSARY.
2. INFORMATION FOR DIMENSIONS IS CONTAINED IN A SEPARATE SET OF ARCHITECTURAL PLANS.
3. THESE DRAWINGS HAVE BEEN PREPARED WITHOUT THE AID OF RECORD DRAWINGS. THE CONTRACTOR SHALL VERIFY THESE DRAWINGS WITH EXISTING CONDITIONS AND NOTIFY THE ARCHITECT/ENGINEER IMMEDIATELY OF INCONSISTENCIES BETWEEN THE DRAWINGS AND ACTUAL CONDITIONS BEFORE PROCEEDING WITH DEMOLITION OR CONSTRUCTION.
4. THE CONTRACTOR SHALL ALSO NOTIFY THE OWNER IMMEDIATELY IF ANY WORK INDICATED IN THE CONTRACT DOCUMENTS CANNOT BE PERFORMED DUE TO EXISTING FIELD CONDITIONS.
5. IF ANY EXISTING FIRE PROOFING OR FIRE ASSEMBLIES ARE DAMAGED DURING DEMOLITION OR CONSTRUCTION, THEY SHALL BE REPAIRED TO CONFORM TO ORIGINAL FIRE PROTECTION AND STRUCTURAL REQUIREMENTS
6. THE CONTRACTOR SHALL NOT CUT STRUCTURAL MEMBER IN A MANNER RESULTING IN A REDUCTION OF LOAD CARRYING CAPACITY OR LOAD/DEFLECTION RATIO. THE CONTRACTOR SHALL NOTIFY THE OWNER OF ALL STRUCTURAL CUTS PRIOR TO EXECUTION SO THAT APPROVAL CAN BE OBTAINED.
7. THE CONTRACTOR SHALL REPLACE OR REPAIR ANY DAMAGE TO EXISTING FINISHES WHICH ARE TO REMAIN (I.E. CEILING GRID, CEILING TILE, WALL COVERINGS, FLOOR COVERINGS, ETC).
8. SHORE FRAMING AS REQUIRED TO PERFORM STRUCTURAL WORK.
9. ANY WATER DAMAGE/DETERIORATION OBSERVED IN STRUCTURAL ELEMENTS MUST BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO COMPLETING WORK ON THAT ELEMENT.

MARKS AND SYMBOLS:

- SECTION MARK / SHEET NUMBER
- (E) PLYWOOD SHEATHING
- WOOD POST OR STEEL PIPE COLUMN, SEE DETAIL (4/S601) FOR WOOD POST ANCHORAGE DETAIL
- (E) FLR JSTS IN CORRIDOR AND LOBBIES TO BE STRENGTHENED PER (14/S601)
- GLB — GLUE LAMINATED WOOD BEAM
- PFT — PRE-FABRICATED TRUSS
- (E) — EXISTING BUILDING ELEMENT
- HD — HOLDDOWN (3/S601)

FOOTING AND FOUNDATION PLAN

SCALE: 1/4"=1'-0"

Bid Set
January 07, 2009

NOTE:
THESE STRUCTURAL DRAWINGS ARE BASED ON ARCHITECTURAL DRAWINGS DATED 12.17.2008

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DESIGNED BY: Curtis Earl
REVIEWED BY: Paul McMullin
DRAWN BY: Brett Roberts
PROJECT NUMBER: 28266

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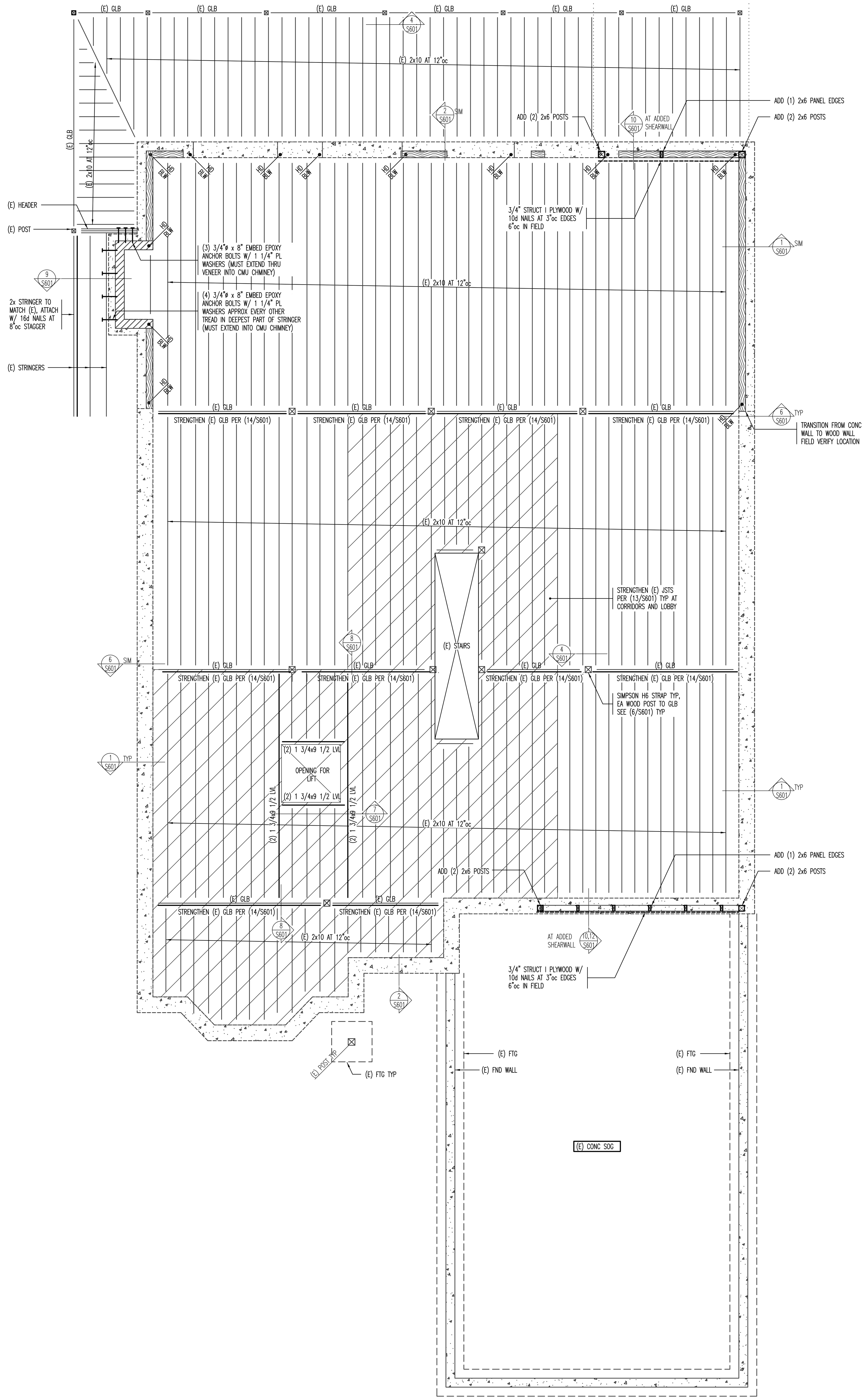
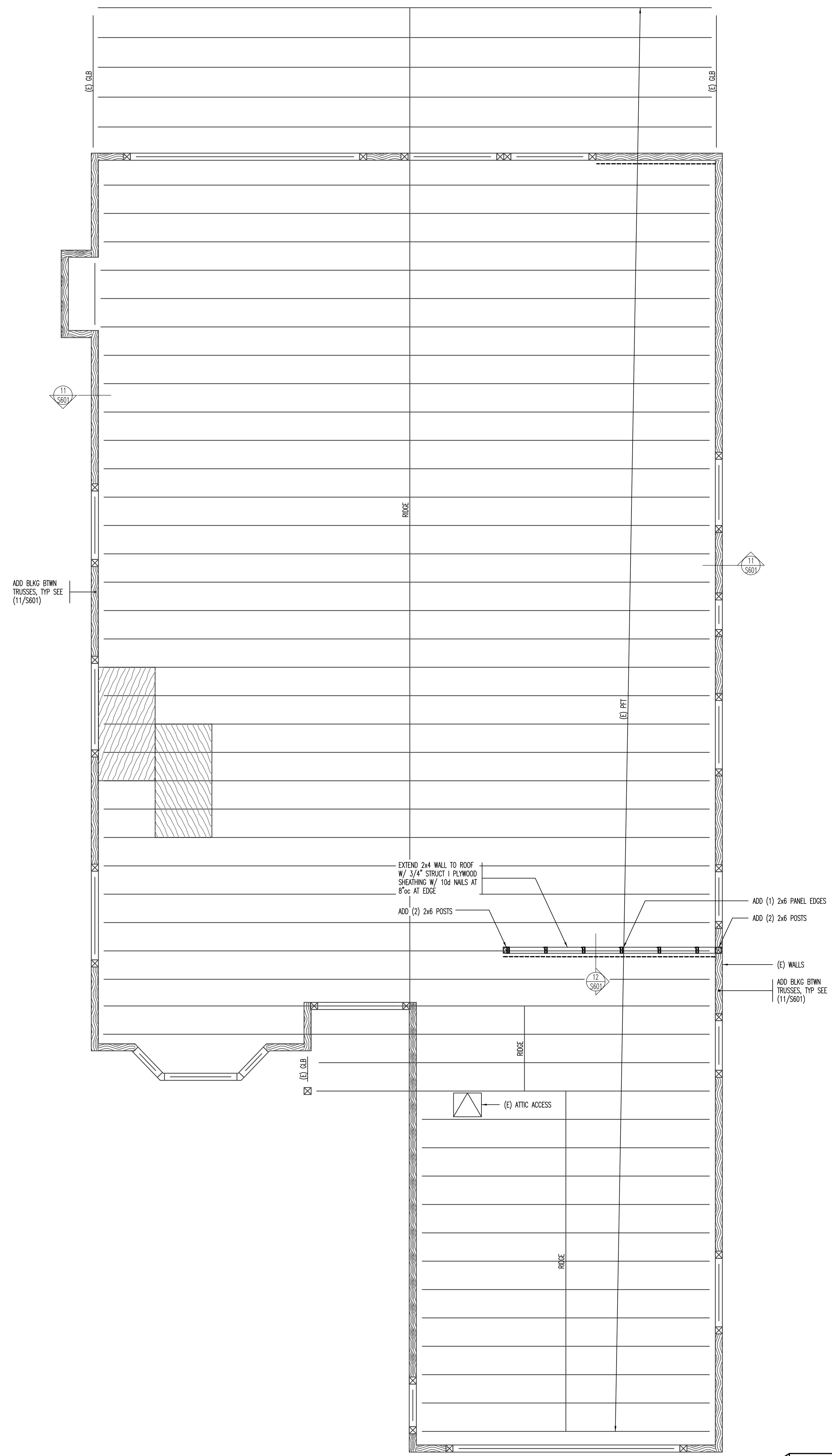
UTAH VALLEY UNIVERSITY
MURDOCK GUEST HOUSE ADAPTIVE RE-USE
519 WEST 1200 SOUTH OREM UTAH

PHASE: BID SET
DATE: 12/19/08
DRAWING: PLANS
SHEET #: S201



SECOND FLOOR FRAMING PLAN

SCALE: 1/4"=1'-0"



ROOF FRAMING PLAN

SCALE: 1/4"=1'-0"

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HD	HOLDOWN (3/S601)

Bid Set
January 07, 2009

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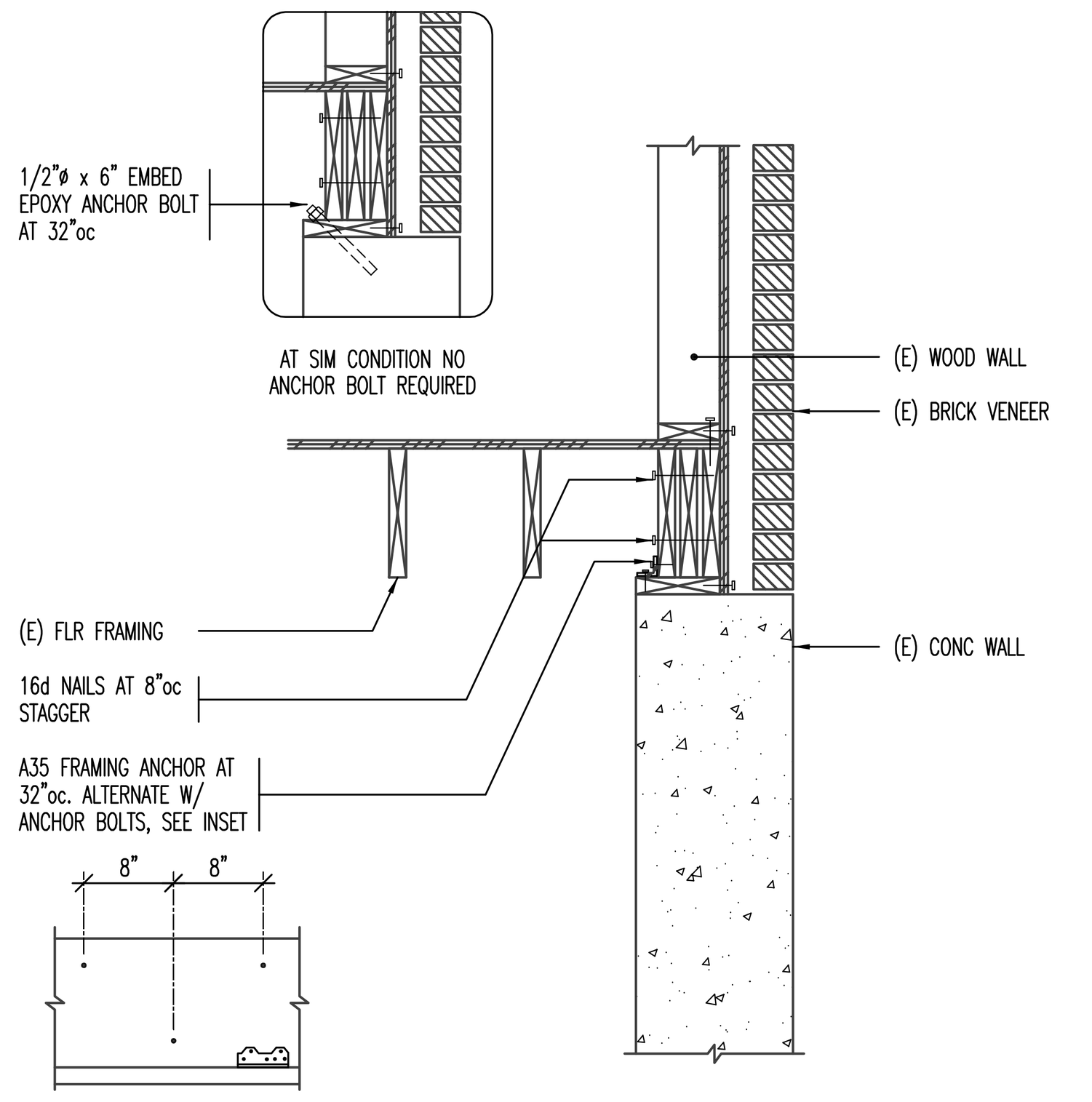
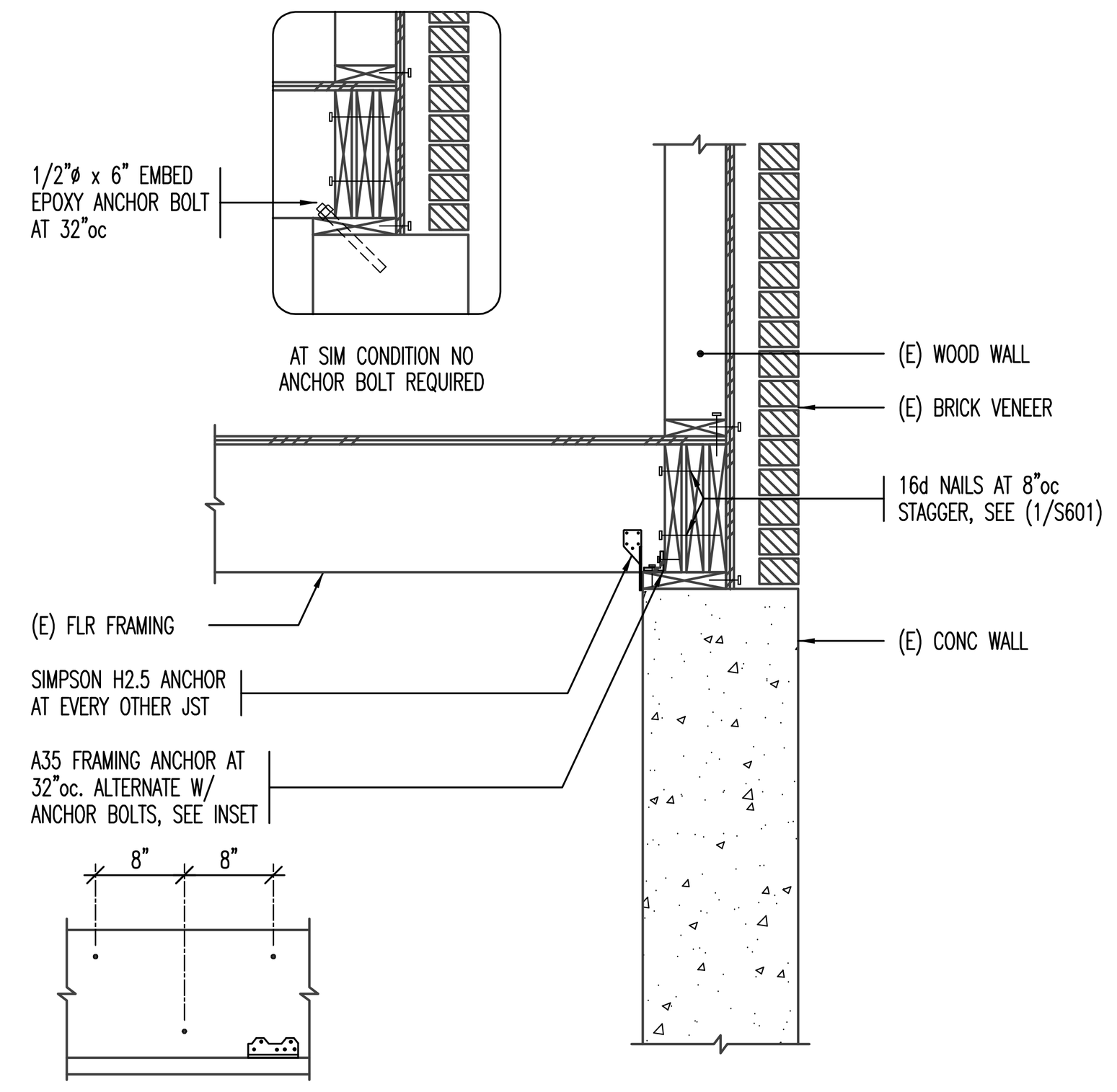
519 WEST 1200 SOUTH OREM UTAH

PHASE: BID SET
DATE: 12/19/08
DRAWING: PLANS
SHEET #: S202



1 FLOOR FRAMING ANCHORAGE NON-BEARING WALLS
NO SCALE



2 FLOOR FRAMING ANCHORAGE BEARING WALLS
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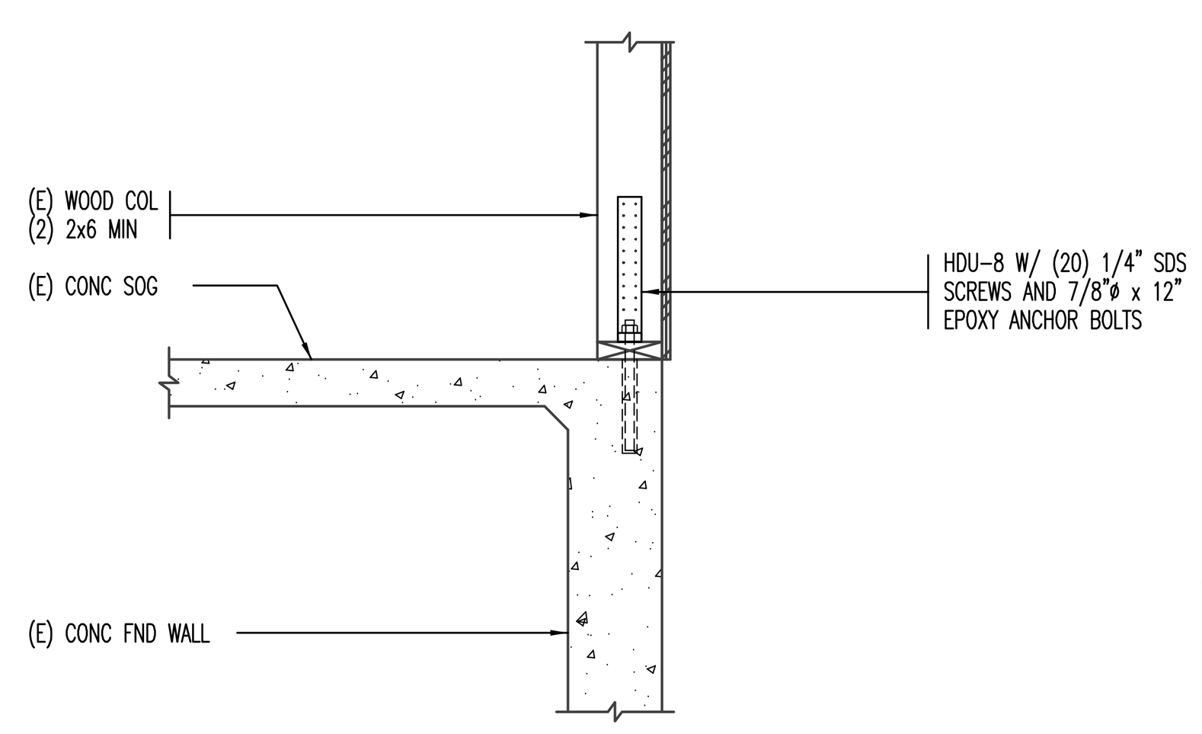
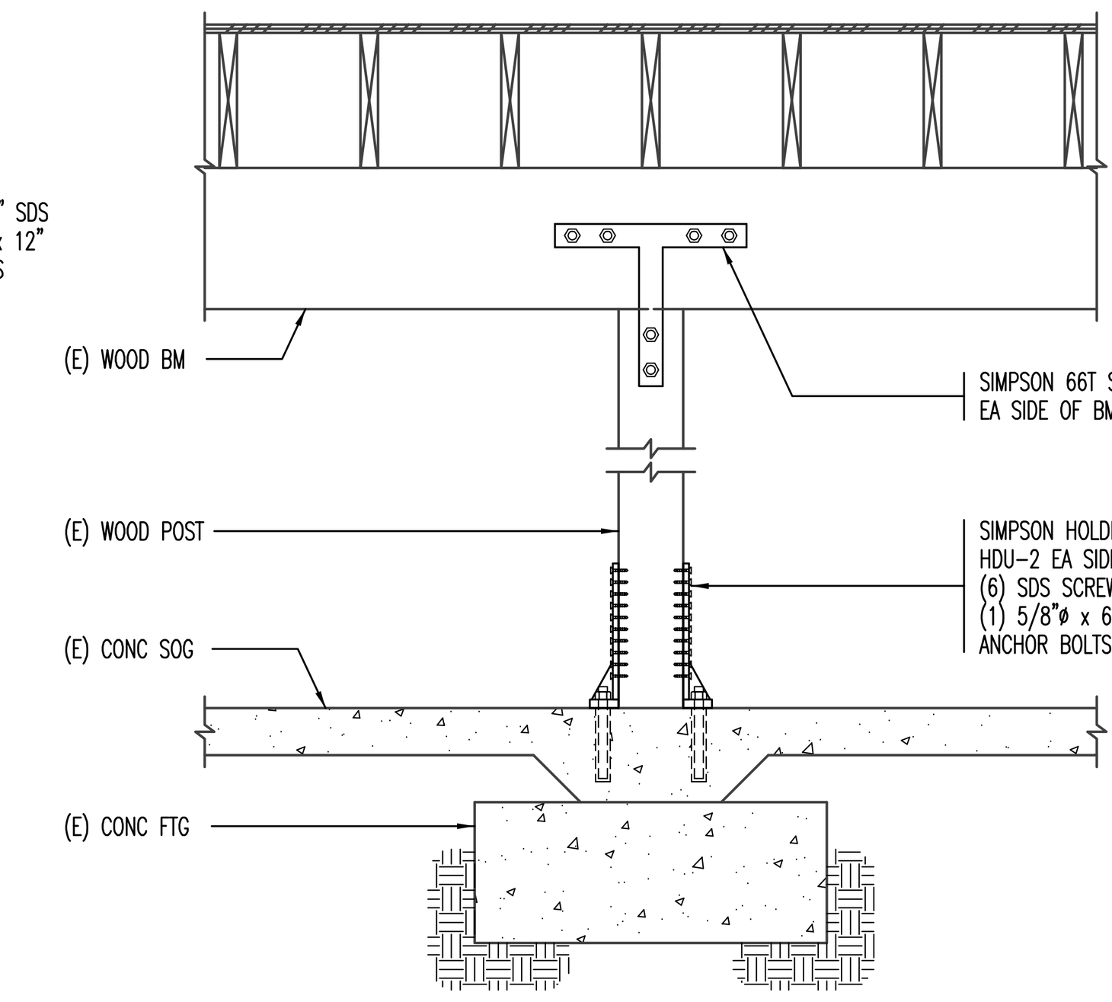
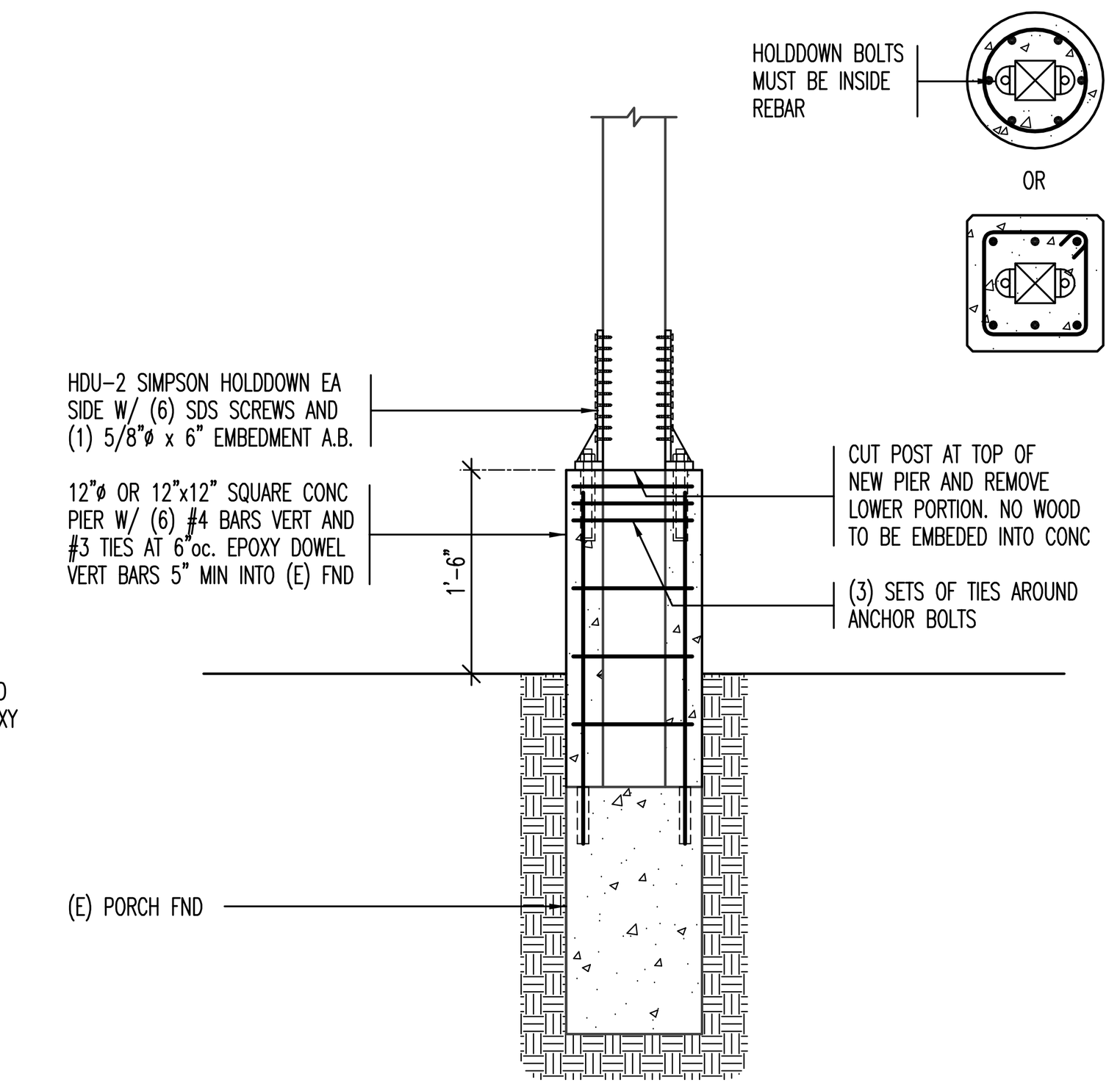


3 HOLDDOWN DETAIL
NO SCALE



4 WOOD POST DETAIL
NO SCALE



5 PORCH SUPPORT DETAIL
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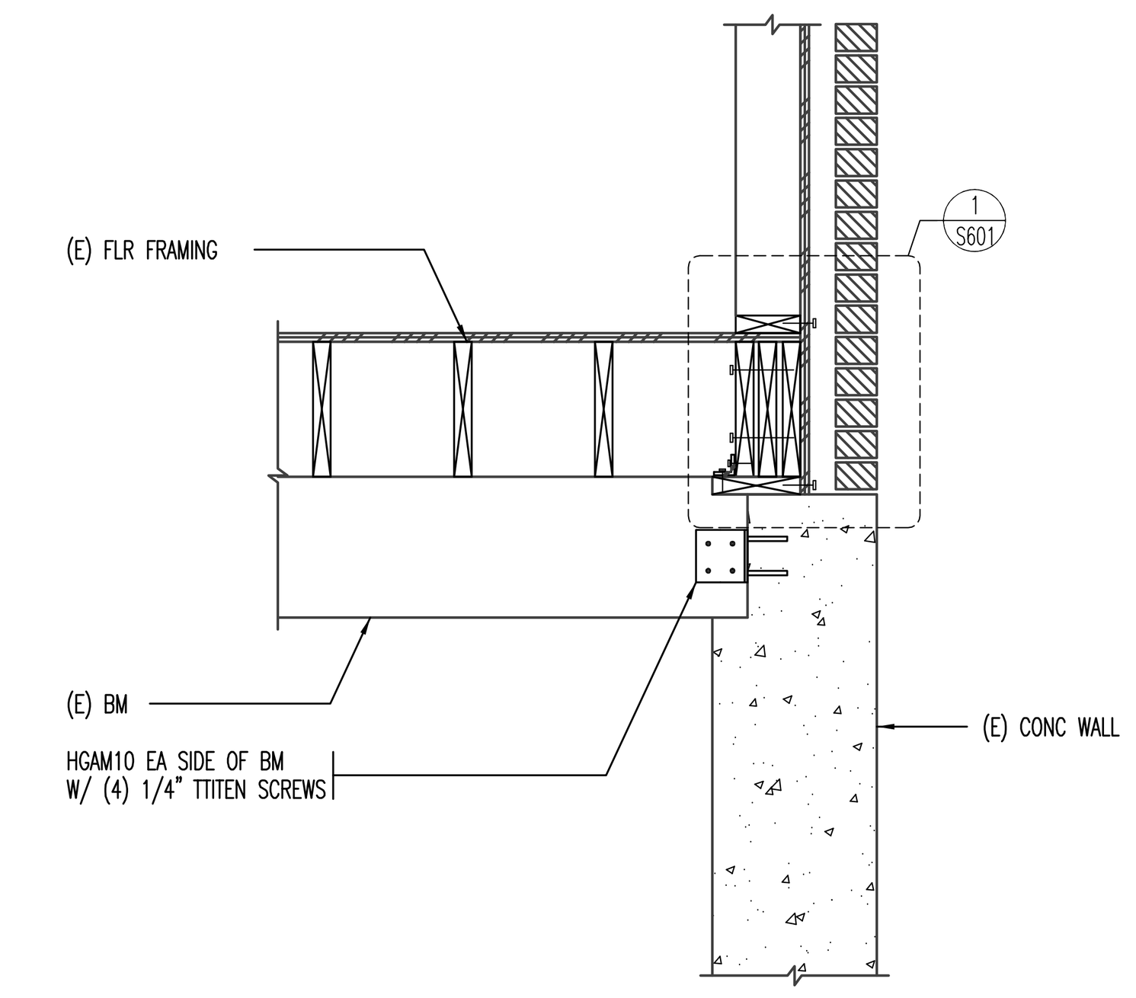

6 WOOD BEAM TO CONCRETE WALL CONNECTION DETAIL
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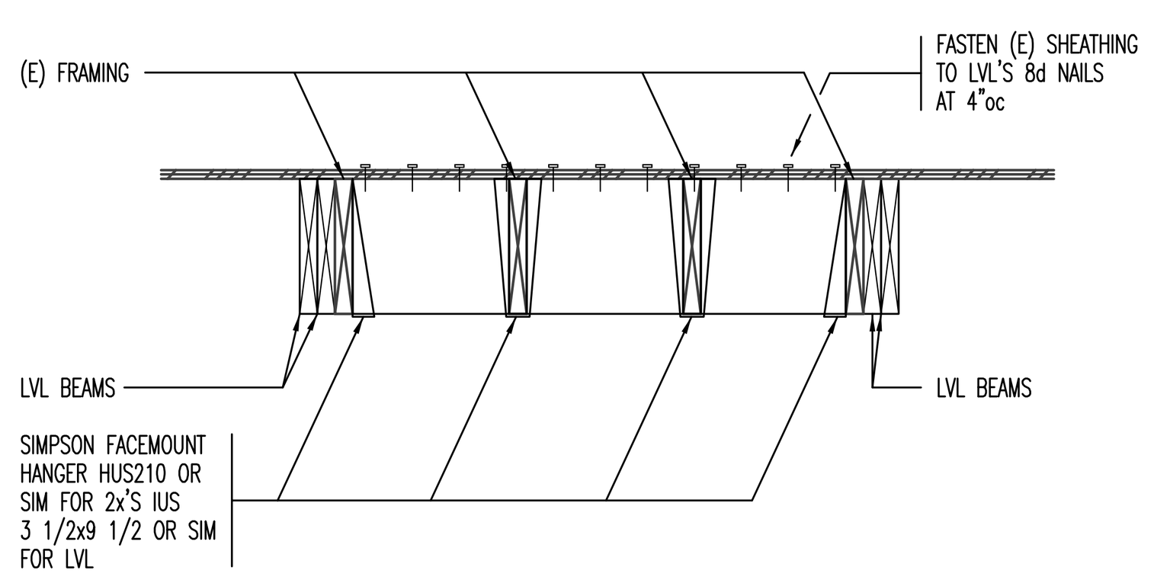

7 LVL HEADER DETAIL
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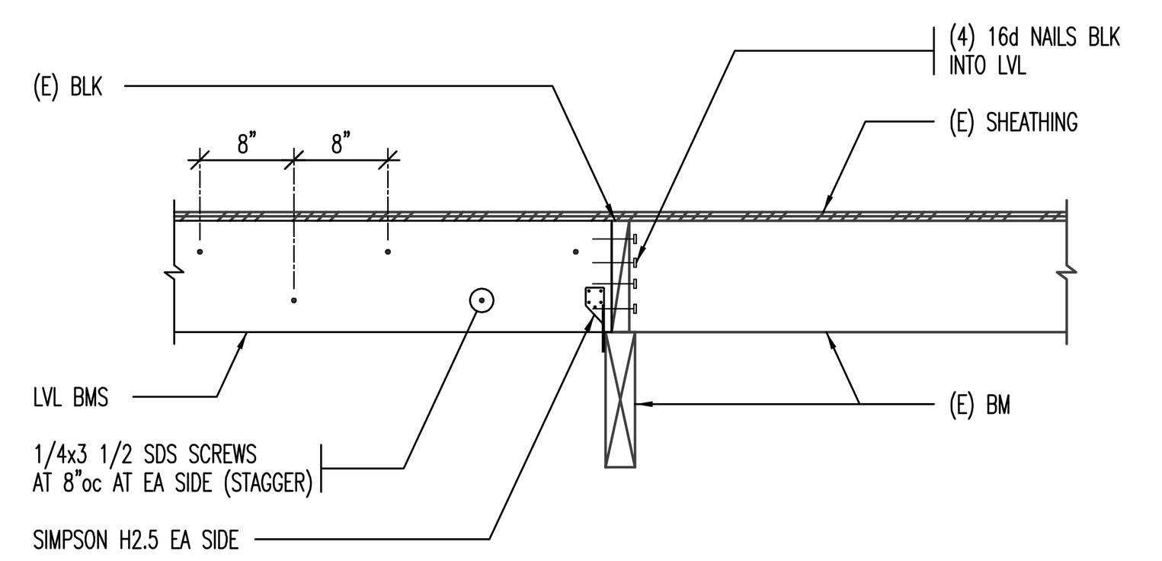

8 LVL TO EXISTING BEAM ATTACHMENT DETAIL
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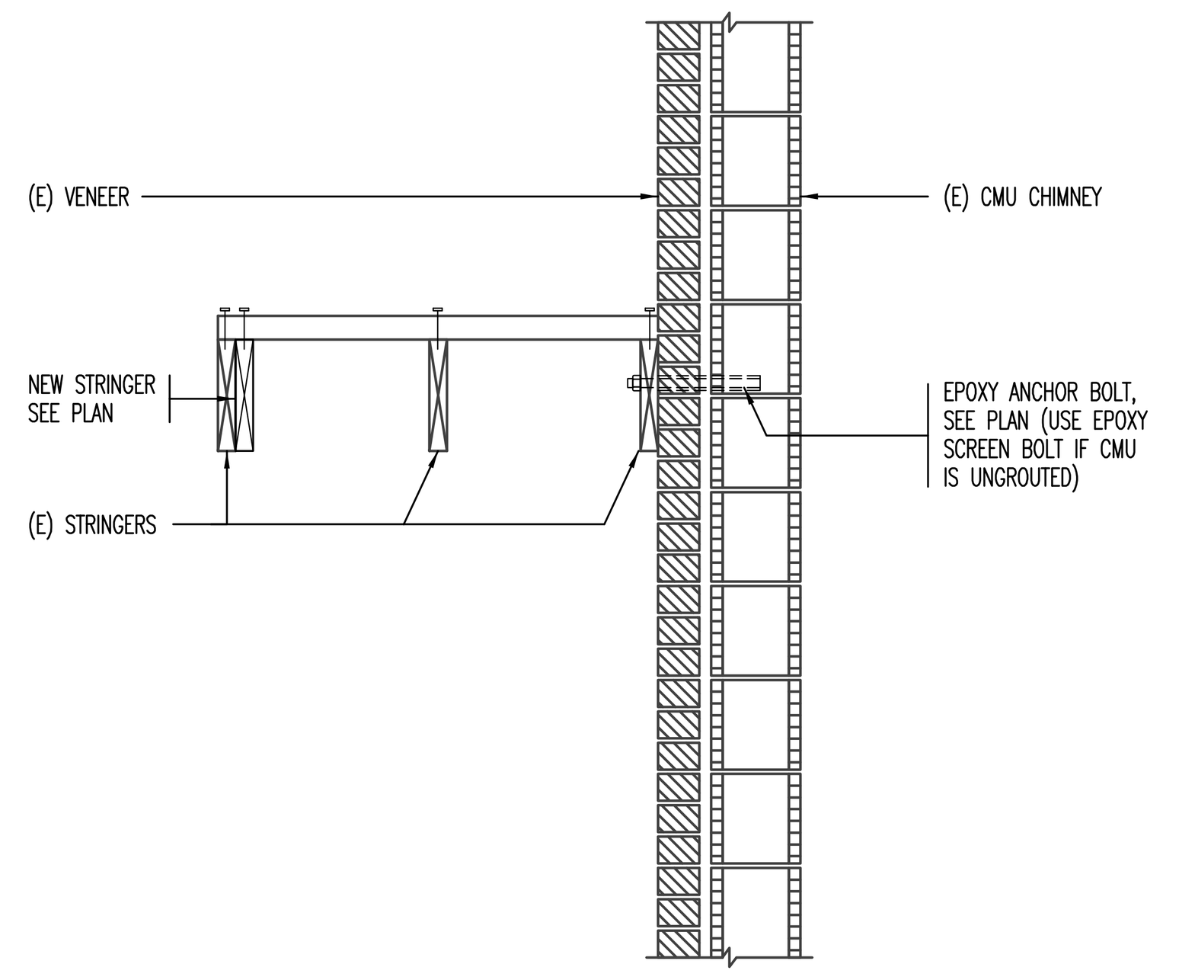

9 STAIR ATTACHMENT DETAIL
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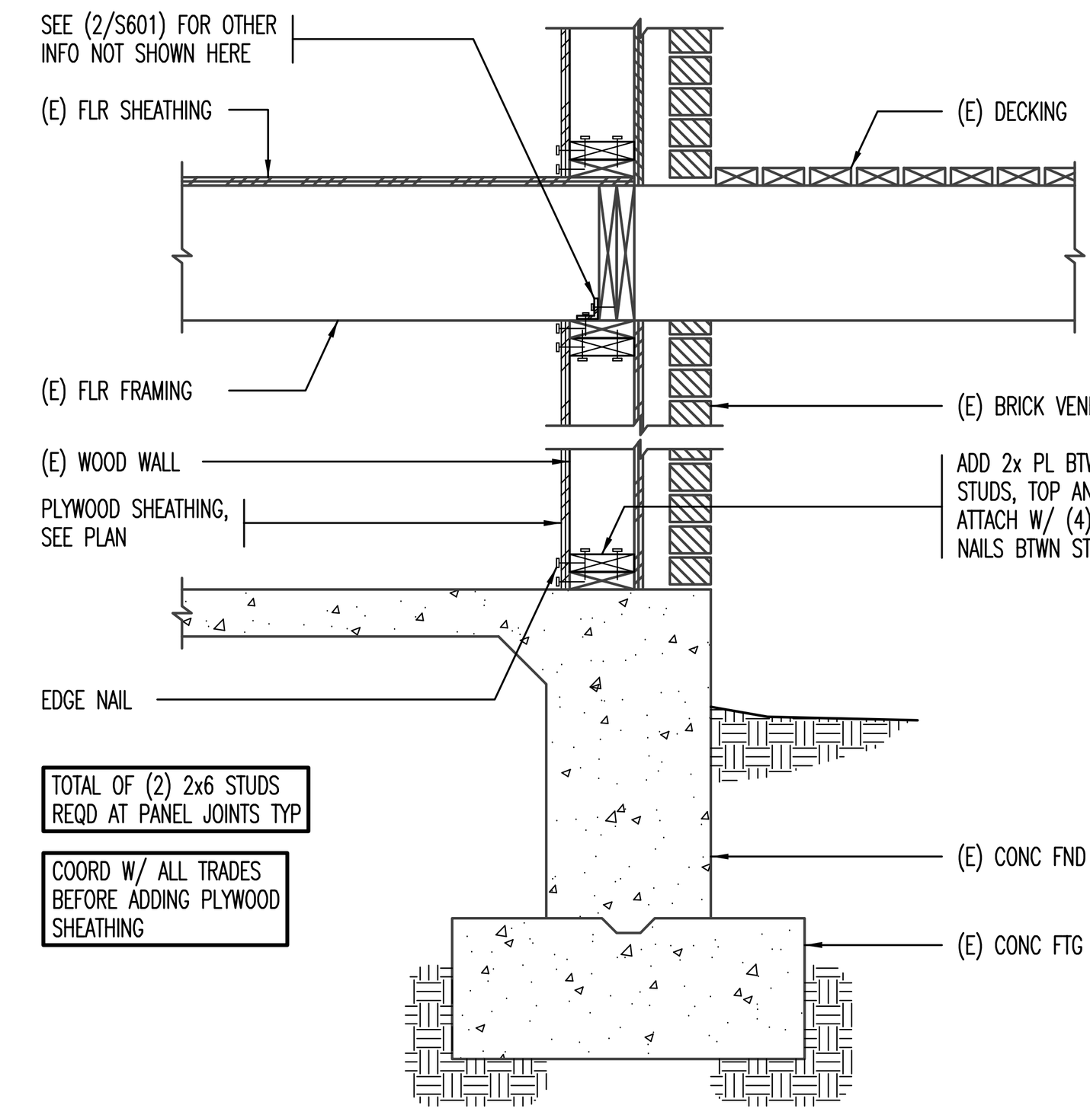

10 SHEAWALL DETAIL
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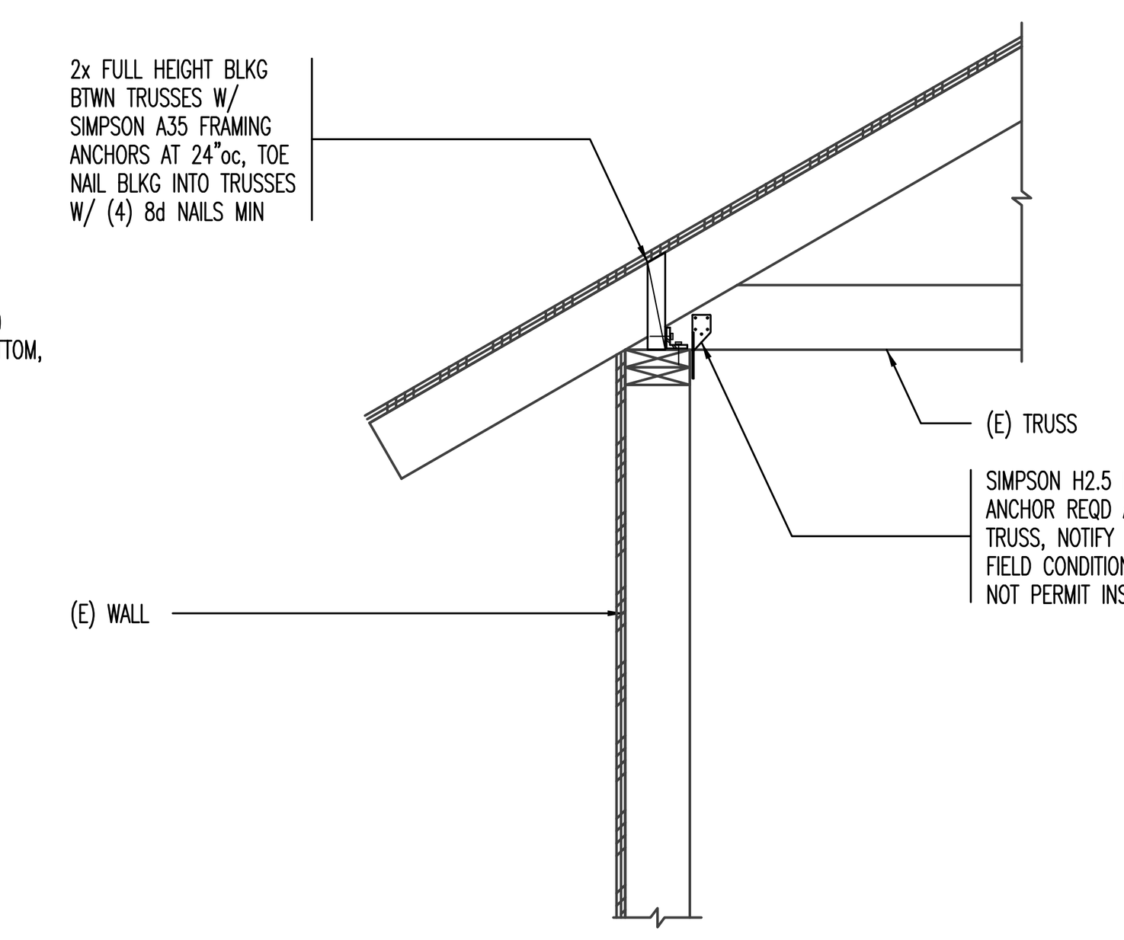
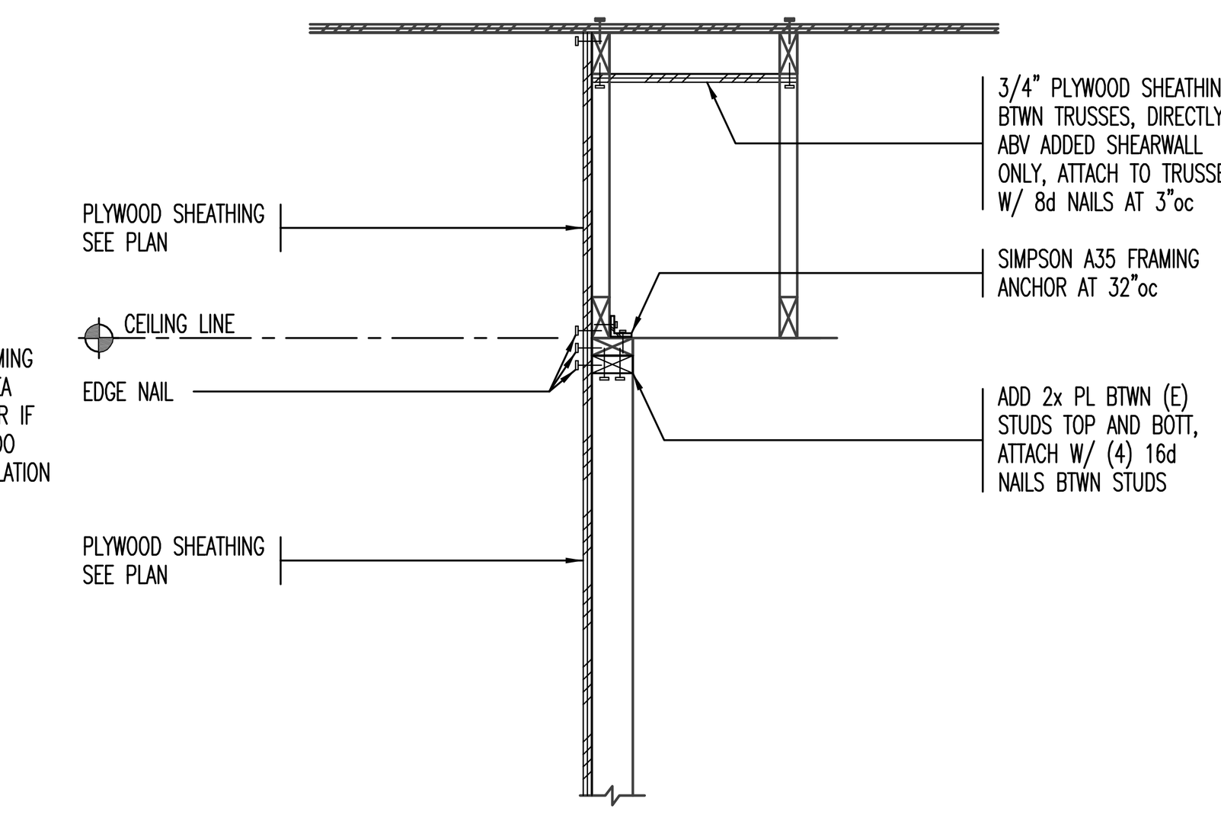


11 ROOF BLOCKING DETAIL
NO SCALE



12 SHEAWALL EXTENSION DETAIL
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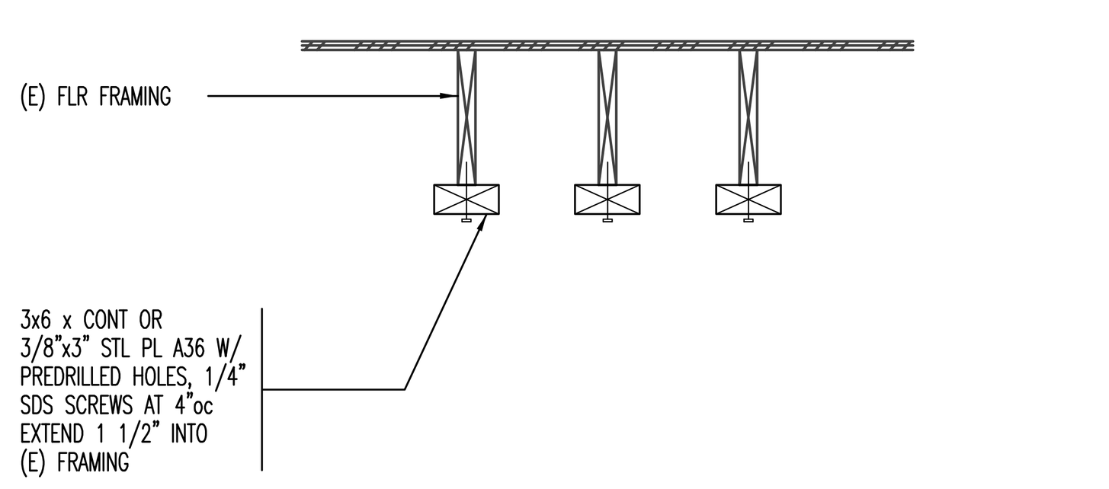
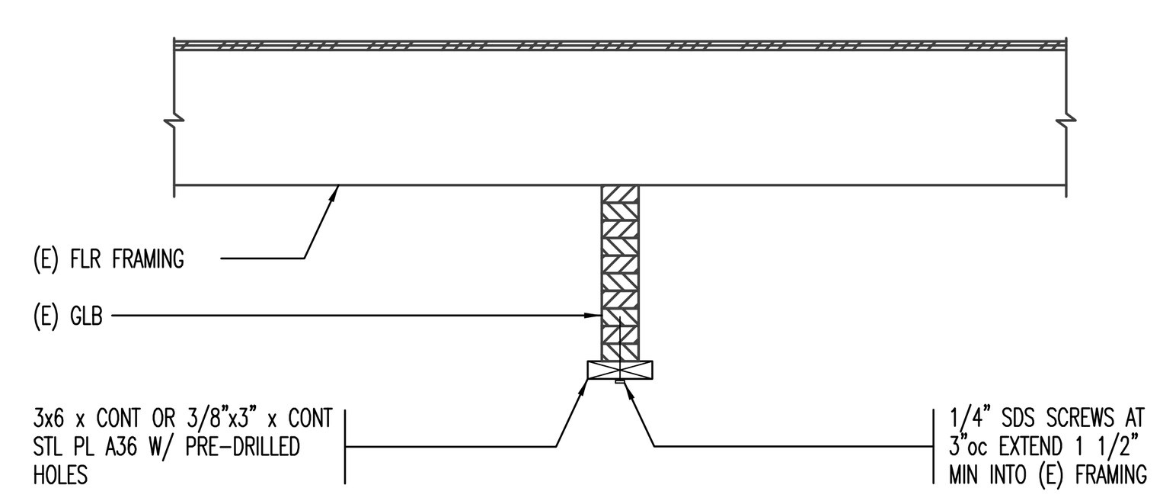


13 FLOOR FRAMING STRENGTHENING DETAIL AT CORRIDOR AND LOBBY AREA ONLY
NO SCALE



14 GLU-LAM BEAM STRENGTHENING DETAIL
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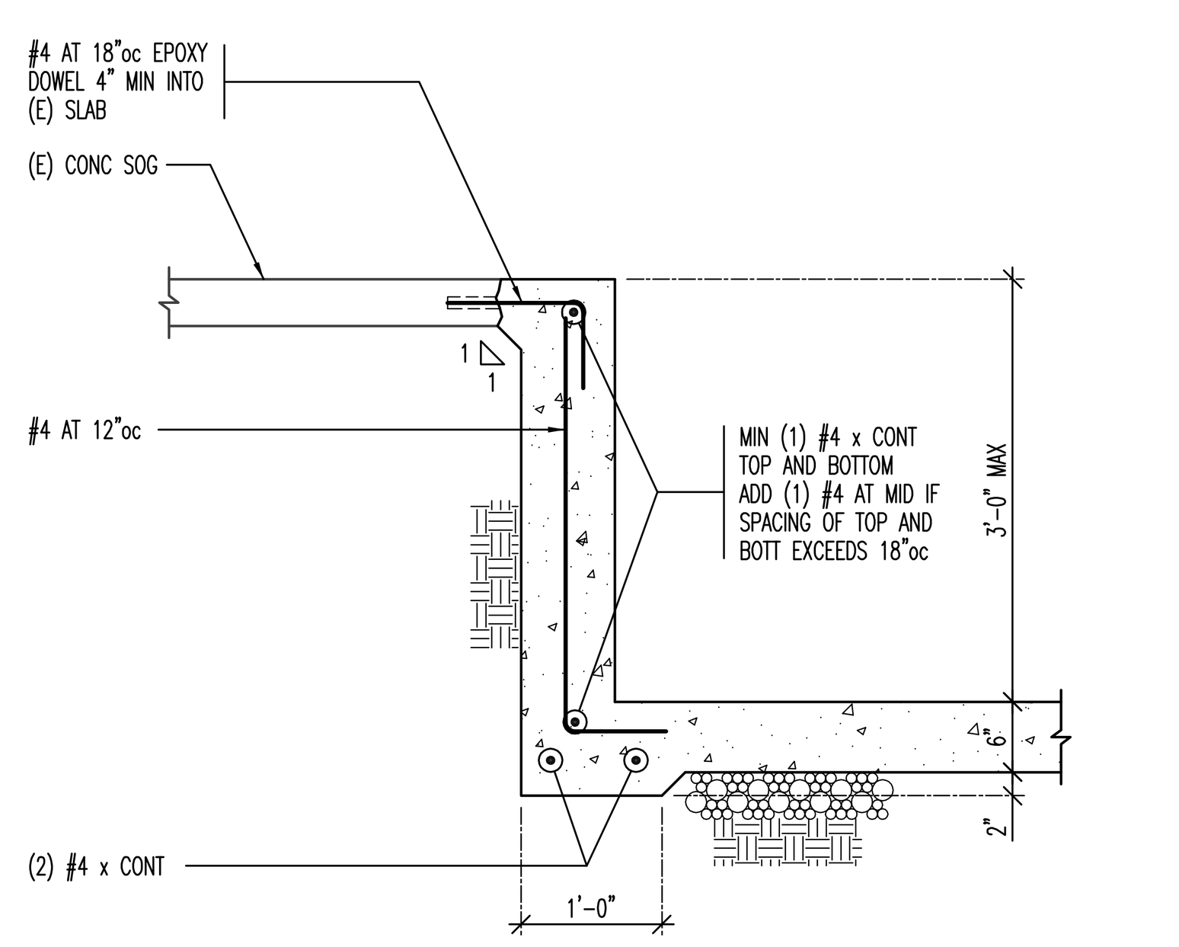

15 LIFT PIT DETAIL
NO SCALE

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801/322/2724
WWW.ATLASARCHITECTS.COM

Utah Valley University
Murdock Guest House Adaptive Re-use
519 West 1200 South Orem Utah

PHASE: BID SET
DATE: 12/19/08
DRAWING: DETAILS
SHEET #: S601

Bid Set
January 07, 2009

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MECHANICAL LEGEND

SYMBOL	ABR.	DESCRIPTION
GENERAL TERMINOLOGY		
A2		DETAIL NUMBER DESIGNATION CORRESPONDING WITH GRID LOCATION
MA / 1		MECHANICAL EQUIPMENT DESIGNATION / EQUIPMENT ITEM DESIGNATION
D-1 / CFM		REGISTER, GRILL OR DIFFUSER DESIGNATION WITH BALANCING CFM LISTED BELOW
R-1		GRILLE, OR LOUVER DESIGNATION WHERE BALANCING NOT REQUIRE
1		REVISION DESIGNATOR AND NUMBER
1		KEY NOTE DESIGNATOR AND NUMBER
	POC	POINT OF CONNECTION
	POR	POINT OF REMOVAL
GC		GENERAL CONTRACTOR
MC		MECHANICAL CONTRACTOR
ATC		CONTROL CONTRACTOR
EC		ELECTRICAL CONTRACTOR
FPC		FIRE PROTECTION CONTROL
NIC		NOT IN CONTRACT
NTS		NOT TO SCALE
C		COMMON
NC		NORMALLY CLOSED
NO		NORMALLY OPEN

SYMBOL	ABR.	DESCRIPTION
AIR SIDE		
		EXISTING AIR DUCT TO BE REMOVED
		EXISTING AIR DUCT TO REMAIN
		NEW AIR DUCT
		NEW SPIRAL DUCT
		NEW MEDIUM PRESSURE DUCT
		BURIED OR UNDER FLOOR DUCT
		FLEXIBLE AIR DUCT
		LINED DUCT
		VANED ELBOW
		RADIUS ELBOW
		FLEXIBLE AIR DUCT CONNECTION
VD		VOLUME DAMPER
		SUPPLY AIR DIFFUSER
		RETURN AIR, FRESH AIR, AND TRANSFER AIR
		CEILING MOUNTED EXHAUST FAN OR EXHAUST GRILLE
		RETURN OR OUTSIDE AIR DUCT UP
		SUPPLY DUCT UP
		EXHAUST AIR INTAKE UP
		RETURN OR OUTSIDE AIR DUCT DOWN
		SUPPLY DUCT DOWN
		EXHAUST DUCT DOWN
		ROUND DUCT UP
		ROUND DUCT DOWN
	AP	ACCESS PANEL
		EXISTING EQUIPMENT TO BE REMOVED
		EXISTING EQUIPMENT TO REMAIN
		NEW EQUIPMENT
T / RTU-1	T-STAT	WALL MOUNTED THERMOSTAT MECHANICAL EQUIPMENT CONTROLLED
SA		SUPPLY AIR
RA		RETURN AIR
EA		EXHAUST AIR
OA		OUTSIDE AIR
MA		MIXED AIR
FA		FRESH AIR
RF		RELIEF AIR

SYMBOL	ABR.	DESCRIPTION
WET SIDE		
		PUMP
		REGULATOR
		UNION
		BUTTERFLY VALVE
		GATE VALVE
	CBV	CIRCUIT BALANCING VALVE
	BV	BALL VALVE
		PRESSURE GAUGE AND GAUGE COCK - WATER
		PRESSURE GAUGE AND GAUGE COCK - STEAM
		THERMOMETER AND THERMOWELL
		DIRECTION OF FLOW
		ELBOW UP
		ELBOW DOWN
		TEE UP
		TEE DOWN
		EXISTING PIPING TO BE REMOVED
		EXISTING PIPING TO REMAIN
		NEW PIPING
		PIPE CAP OR PLUG
		FLEXIBLE CONNECTION
	CW	CULINARY COLD WATER
	HW	CULINARY HOT WATER
		RECIRCULATED CULINARY HOT WATER
HWS		HEATING WATER SUPPLY
HWR		HEATING WATER RETURN
CHWS		CHILLED WATER SUPPLY
CHWR		CHILLED WATER RETURN

GENERAL NOTES:

G-1 MECHANICAL INFORMATION IS NOT LIMITED TO THE MECHANICAL DRAWINGS. CONTRACTOR SHALL BE RESPONSIBLE FOR INFORMATION ON ALL OTHER CONSTRUCTION DOCUMENTS INCLUDING DRAWINGS BY OTHER DISCIPLINES AND SPECIFICATIONS.

A - EACH DRAWING SHEET AND THE SPECIFICATIONS HAVE BEEN PREPARED TO SUPPLEMENT EACH OTHER AND THEY SHALL BE INTERPRETED AS AN INTEGRAL UNIT WITH ITEMS SHOWN AND NOTED ON ONE AND NOT THE OTHER BEING FURNISHED AND INSTALLED AS THOUGH SHOWN AND CALLED OUT IN ALL PLACES. ITEMS IN SPECIFICATIONS OR DRAWINGS LISTED WHICH ARE DIFFERING IN EFFICIENCY OR QUALITY SHALL BE HELD TO THE GREATEST OF: EFFICIENCY, QUALITY OR GOVERNING CODE.

B - THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR THE INSTALLATION OF THE SYSTEMS ACCORDING TO THE TRUE INTENT AND MEANING OF THE CONTRACT DOCUMENTS.

C - THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT WITH PROPER SERVICE ACCESS AND CLEARANCES ACCORDING TO MANUFACTURERS RECOMMENDATIONS. THE CONTRACTOR SHALL REVIEW SUPPLIERS BID PACKAGES FOR COMPLETENESS AND COMPLIANCE TO THE SPECIFICATIONS, SCHEDULES, AND DESIGN INTENT (ALL EQUIPMENT AND METHODS). THE CONTRACTOR SHALL REMOVE AND REINSTALL CORRECTLY AT HIS OWN EXPENSE ANY EQUIPMENT NOT IN COMPLIANCE.

D - THE CONTRACTOR SHALL CONSULT MANUFACTURERS INSTALLATION INSTRUCTIONS FOR SIZES, METHODS, ACCESSORIES, AND CLEARANCES IN SPACE AVAILABLE PRIOR TO BIDDING PROJECT.

E - ANYTHING NOT CLEAR OR IN CONFLICT WILL BE EXPLAINED BY MAKING APPLICATION TO THE ENGINEER IN WRITING.

G-2 ANY AND ALL ALTERATIONS TO THE SYSTEM SHOWN SHALL BE SUBMITTED TO THE ENGINEER PRIOR TO CHANGES FOR APPROVAL. CONTRACTOR SHALL NOT START ANY CHANGES UNTIL NOTIFIED IN WRITING. IF CHANGES ARE MADE PRIOR TO APPROVAL CONTRACTOR SHALL TAKE ALL RESPONSIBILITY FOR THE CHANGES MADE AND ALL COSTS RELATING TO FAILURE OR REPLACEMENT OF ALTERATIONS.

G-3 CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND LOCATIONS.

G-4 THE WORKING DRAWINGS ARE DIAGRAMMATIC. THEY DO NOT SHOW EVERY OFFSET, BEND, OR ELBOW NECESSARY FOR THE COMPLETE INSTALLATION IN THE SPACE PROVIDED. ALL LOCATIONS FOR MECHANICAL EQUIPMENT SHALL BE FIELD VERIFIED AND COORDINATED WITH ALL DRAWINGS. THE CONTRACTOR SHALL PROVIDE OR COORDINATE WITH THE GENERAL CONTRACTOR PROVISIONS FOR BLOCKOUTS OR CORE DRILLS THROUGH STRUCTURE.

G-5 THE INSTRUCTION TO "PROVIDE" ALSO INCLUDES INSTALLATION.

G-6 MECHANICAL CONTRACTOR SHALL PROVIDE AND INSTALL SMOKE AND FIRE DAMPERS AS REQUIRED BY LOCAL CODES AND AUTHORITIES.

G-7 SHEET METAL DUCT SIZES SHOWN ON DRAWINGS ARE FREE AREA DIMENSIONS.

G-8 PROVIDE AND INSTALL BALANCING DAMPERS IN ALL SUPPLY AND EXHAUST AIR BRANCH DUCTS. BALANCE TO CFM SHOWN ON PLAN.

G-9 SEE ARCHITECTURAL REFLECTED CEILING PLAN FOR EXACT LOCATION OF DIFFUSERS AND GRILLES.

G-10 PROVIDE TURNING VANES IN ALL ELBOWS OF RECTANGULAR DUCT.

G-11 THE CONTRACTOR SHALL ASSUME ALL RESPONSIBILITY IN HANDLING AND DISPOSING OF REFRIGERANTS, OILS, ETC. ALL SUCH MATERIALS SHALL BE HANDLED, DISPOSED, AND USED IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL LAWS.

G-12 THE MECHANICAL CONTRACTOR SHALL VERIFY MOTOR VOLTAGES WITH THE ELECTRICAL DRAWING BEFORE ORDERING MOTORIZED EQUIPMENT AND CONTROLS.

G-13 C.F.M. LISTED IS ACTUAL AIR.

G-14 SUPPLIERS SHALL REVIEW ALL DRAWINGS AND THE SPECIFICATIONS PRIOR TO SUBMITTING PRICES TO THE CONTRACTOR. ALL QUESTIONS AND DISCREPANCIES SHALL BE BROUGHT TO THE ENGINEERS ATTENTION PRIOR TO BIDDING.

G-15 CONTRACTOR SHALL THOROUGHLY REVIEW AND SIGN SUBMITTALS FOR COMPLETENESS AND COMPLIANCE TO THE SPECIFICATIONS PRIOR TO ENGINEERS REVIEW. SUPPLIERS SHALL HIGHLIGHT OR MARK ALL INFORMATION REQUIRED TO SHOW COMPLIANCE TO THE SPECIFICATIONS. ALL REQUESTED EXCEPTIONS TO THE SPECIFICATIONS, OR SCHEDULES SHALL BE CLEARLY NOTED AND EXPLAINED. SUBMITTAL REVIEW AND ACCEPTANCE IS FOR DESIGN CONCEPT ONLY, AND DOES NOT AT ANY TIME RELIEVE THE CONTRACTOR OF RESPONSIBILITY TO MEET SPECIFICATIONS, CAPACITIES, OR DESIGN INTENT.

G-16 ALL MECHANICAL SHALL BE INSTALLED AND CONFORM TO THE 2006 EDITION OF THE IMC WITH UTAH ANNOTATIONS AND LOCAL AUTHORITY REQUIREMENTS.

G-17 THIS CONTRACTOR SHALL BE RESPONSIBLE FOR THE DRAINING DOWN AND RE-FILLING OF ALL SYSTEMS NECESSARY TO COMPLETE THE WORK OUTLINED BY THIS PROJECT. THIS INCLUDES PROVIDING THE REQUIRED CHEMICAL TREATMENT WHEN RE-FILLING THE SYSTEM.

G-18 ALL PIPING, MATERIALS, ETC. SHALL BE NEW AND DOMESTIC MADE UNLESS SPECIFICALLY AUTHORIZED IN WRITING PRIOR TO BID.

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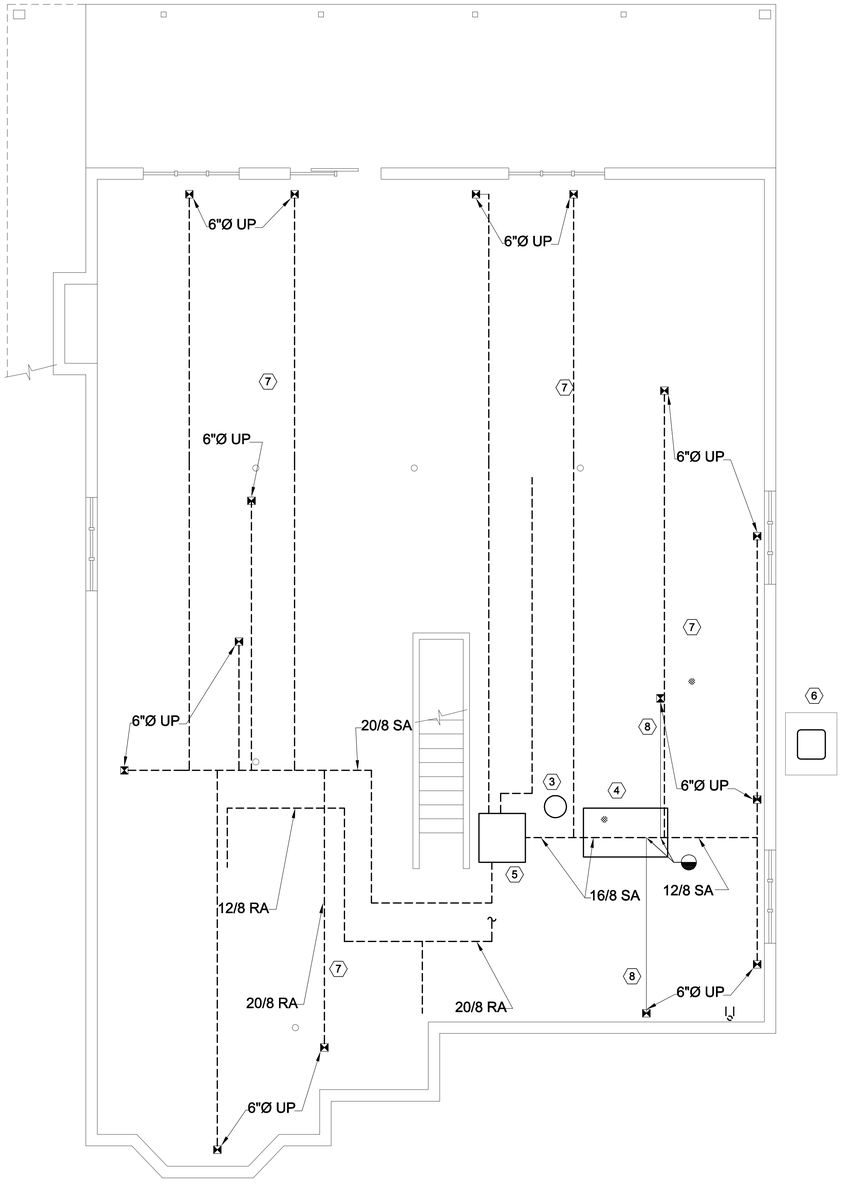
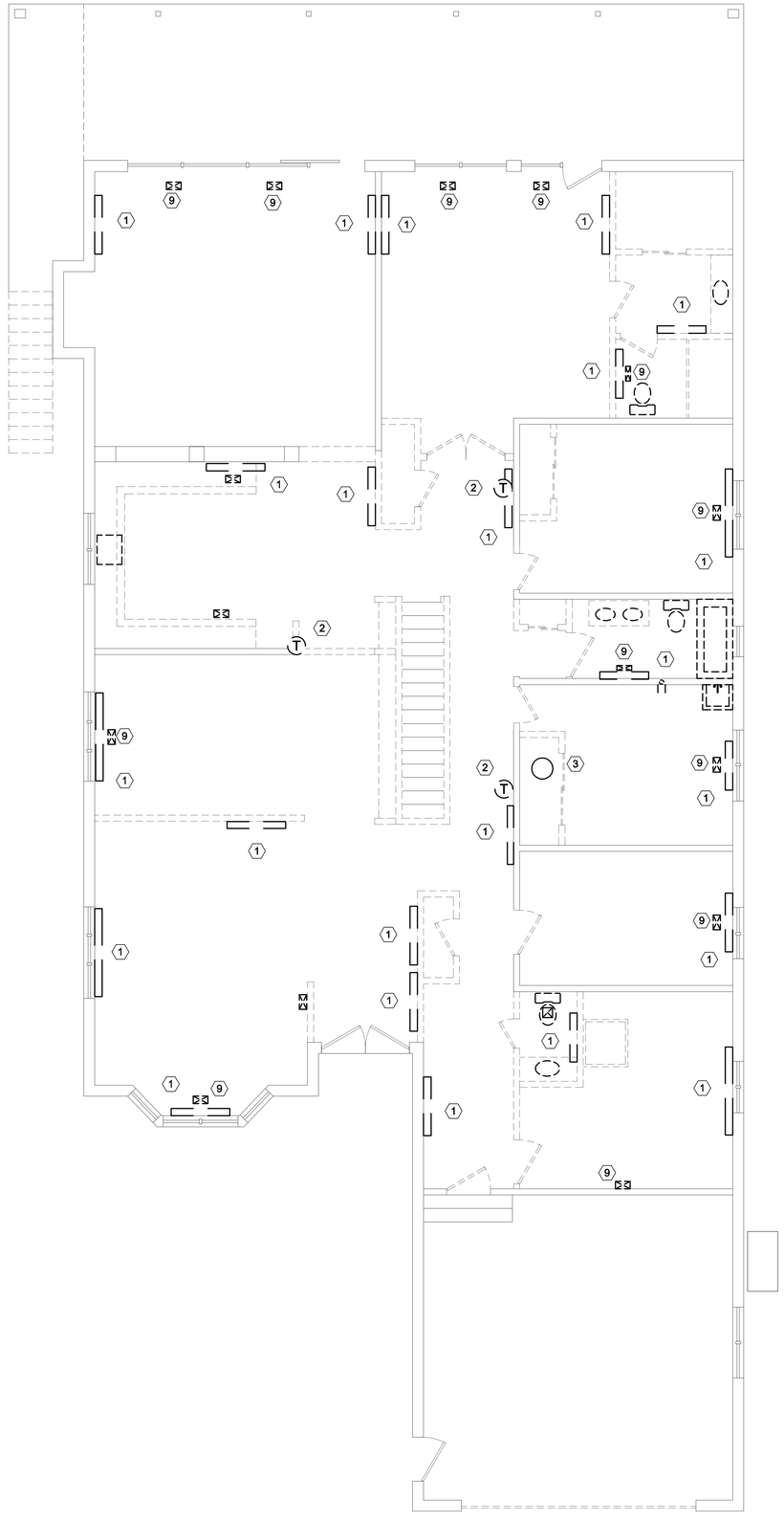
PHASE: CD
DATE: 12-19-08
DRAWING: MECHANICAL LEGEND AND GENERAL NOTES
SHEET #: MG0.1



MECHANICAL DEMOLITION BASEMENT FLOOR PLAN

SCALE: 1/4" = 1'-0"



MECHANICAL DEMOLITION FIRST LEVEL FLOOR PLAN

SCALE: 1/4" = 1'-0"

SHEET NOTES:

1. EXISTING CONVECTOR TO BE REMOVED. REMOVE ALL ASSOCIATED PIPING AND CONTROLS.
2. REMOVE EXISTING THERMOSTAT. COORDINATE WITH GC TO PATCH EXISTING WALL TO MATCH EXISTING.
3. EXISTING FLUE DUCT TO BE REMOVED.
4. REMOVE EXISTING BOILER AND ALL ASSOCIATED PIPING, CONTROLS, FLUES, ACCESSORIES, ETC.
5. REMOVE EXISTING FURNACE AND ASSOCIATED PIPING, CONTROLS, FLUES, ACCESSORIES, ETC.
6. REMOVE EXISTING CONDENSING UNIT AND ASSOCIATED PIPING, CONTROLS, ACCESSORIES, ETC.
7. REMOVE EXISTING DUCT WORK AS SHOWN.
8. EXISTING DUCT BRANCH SHALL REMAIN.
9. REMOVE EXISTING FLOOR SUPPLY GRILLES. SEE ME1.1 FOR NEW GRILLE LAYOUT.

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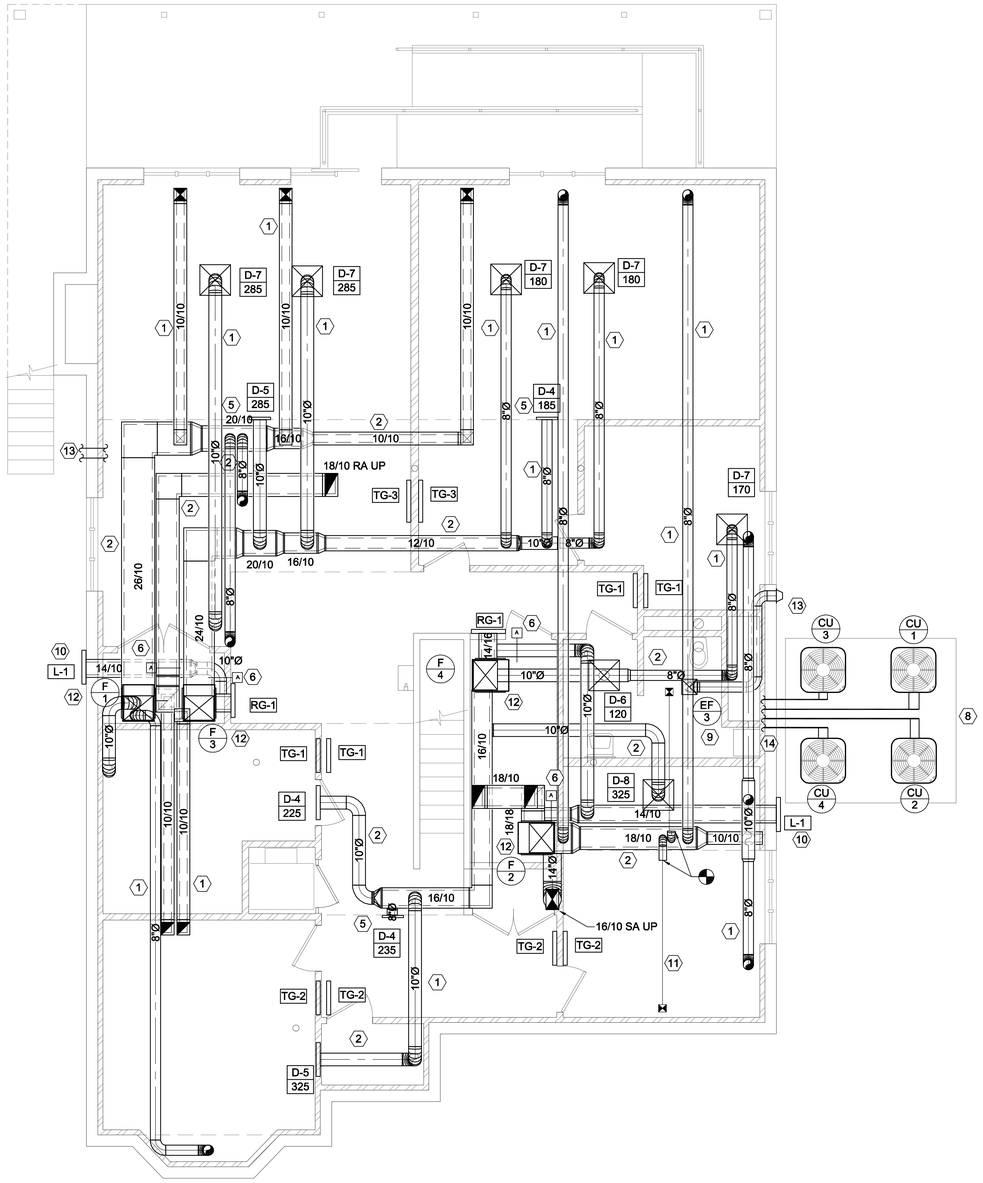
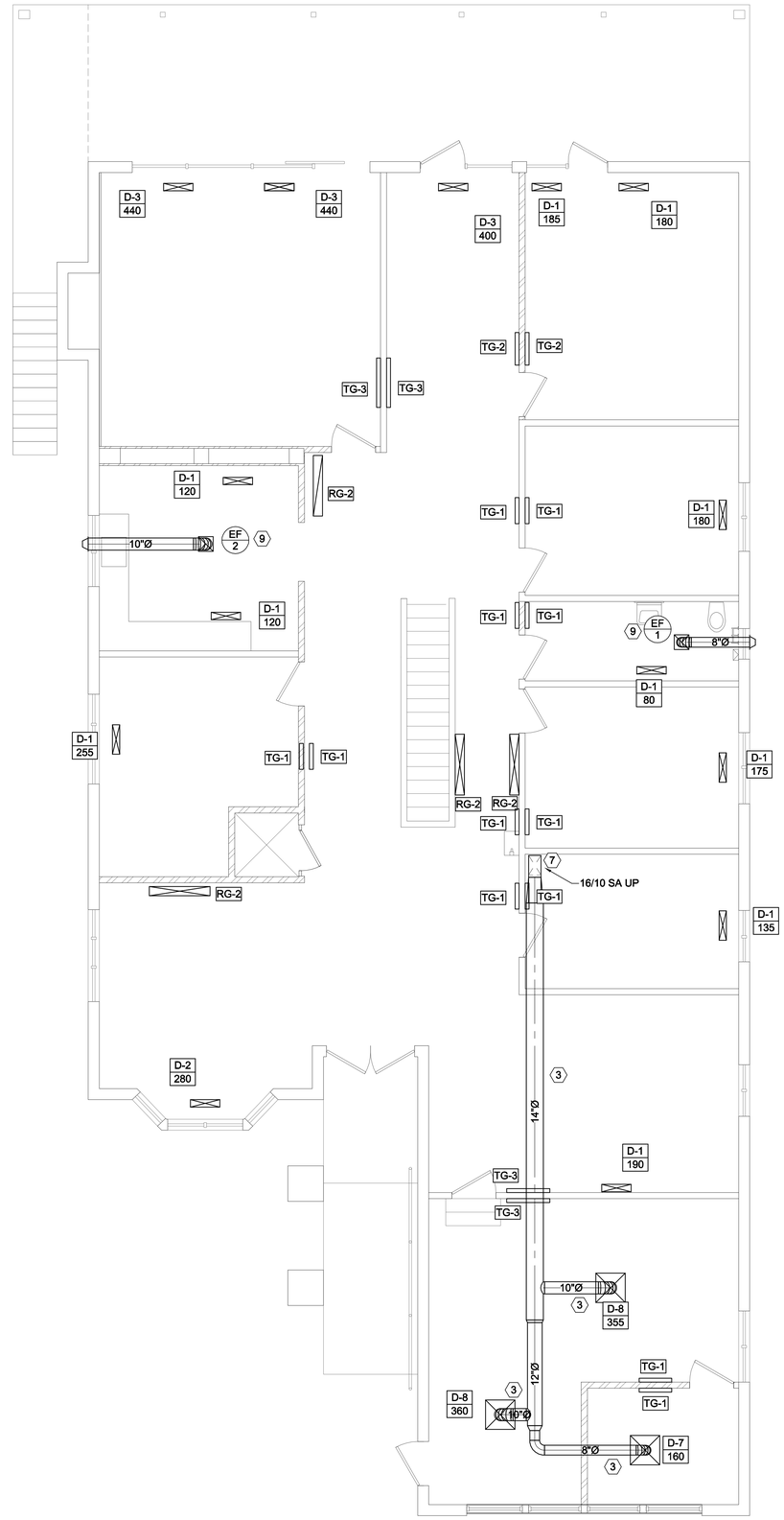
PHASE: CD
DATE: 12-19-08
DRAWING: MECHANICAL DEMOLITION PLANS
SHEET #: MD1.1



MECHANICAL BASEMENT FLOOR PLAN

SCALE: 1/4" = 1'-0"



MECHANICAL FIRST LEVEL FLOOR PLAN

SCALE: 1/4" = 1'-0"

SHEET NOTES:

1. DUCT WORK RUN BETWEEN JOISTS IN BASEMENT CEILING SPACE.
2. DUCT WORK RUN BELOW JOISTS IN BASEMENT CEILING SPACE.
3. DUCT WORK RUN IN ATTIC SPACE ABOVE FIRST FLOOR CEILING.
4. REUSE EXISTING FLOOR PENETRATION WHERE POSSIBLE.
5. SIDEWALL SUPPLY GRILL IN SOFFIT. COORDINATE WITH ARCHITECTURAL PLANS FOR EXACT SOFFIT LOCATION.
6. PROVIDE AUTOMATIC MINIMUM OUTSIDE AIR DAMPER.
7. RUN DUCT IN CHASE. COORDINATE WITH ARCHITECTURAL PLANS.
8. COORDINATE WITH ARCHITECTURAL PLANS FOR HOUSE KEEPING PAD. PROVIDE REFRIGERANT PIPING TO COOLING COILS PER MANUFACTURERS RECOMMENDATIONS.
9. PROVIDE CEILING MOUNTED EXHAUST FAN WITH MANUFACTURERS WALL CAP. COORDINATE WITH G.C. FOR ALL NEW WALL PENETRATIONS.
10. PROVIDE NEW FRESH AIR LOUVER IN WALL. COORDINATE WITH G.C. FOR CUTTING OF WALL.
11. RE-CONNECT TO EXISTING DUCT WORK.
12. PROVIDE NEW FURNACE SPLIT SYSTEMS. PROVIDE REFRIGERANT PIPING. CONNECT ALL SUPPLY AND RETURN DUCTS WITH FLEX CONNECTIONS. PROVIDE TRANSITIONS AS NECESSARY.
13. PROVIDE FLUE AND COMBUSTION AIR PIPING PER MANUFACTURERS REQUIREMENTS. MAINTAIN A MINIMUM OF 10' FROM FRESH AIR LOUVERS. COORDINATE EXACT LOCATION AND RATING WITH FIELD CONDITIONS, AND ALL OTHER DISCIPLINES.
14. PROVIDE REFRIGERANT PIPING FROM OUTDOOR CONDENSING UNIT TO INDOOR FURNACE. COORDINATE SIZING ON CHART ME5.2 AND MANUFACTURERS GUIDELINES.

GENERAL NOTES:

1. MOUNT SIDEWALL RETURN AND TRANSFER GRILLES AT 6" A.F.F..
2. ALL FLOOR GRILLES SHALL BE NEW. COORDINATE WITH G.C. TO MODIFY FLOOR PENETRATIONS AS NECESSARY.

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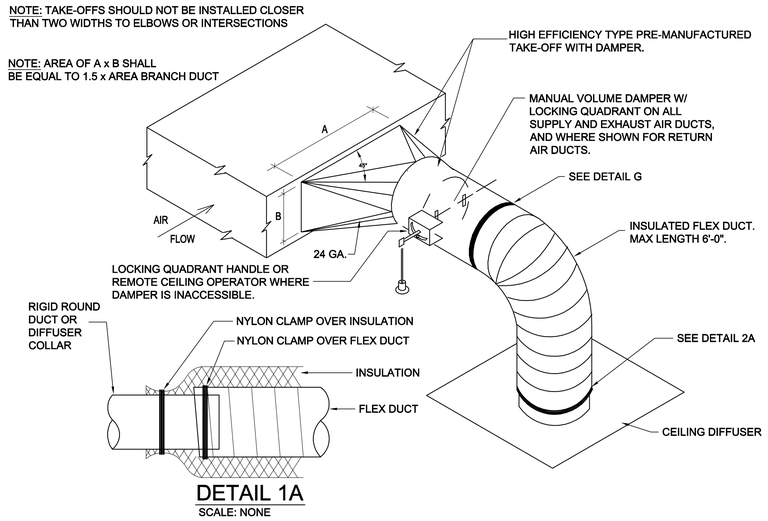
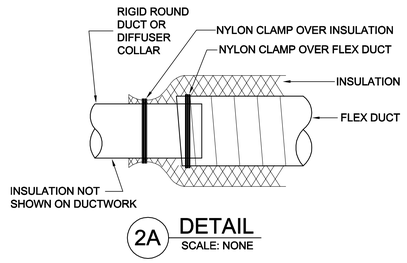
PHASE: CD
DATE: 12-19-08
DRAWING: MECHANICAL FLOOR PLANS
SHEET #: ME1.1

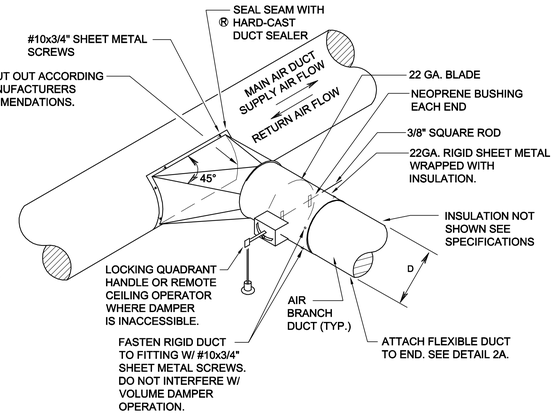


DETAIL 1A
SCALE: NONE

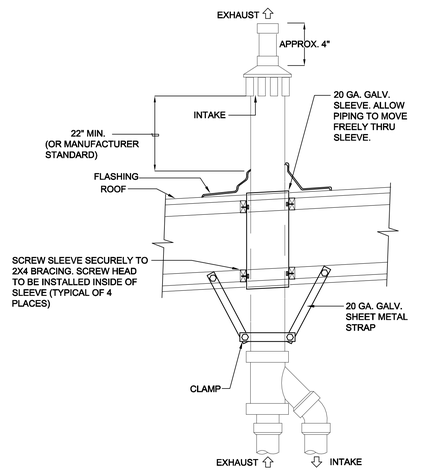
1 SQUARE-TO-ROUND TAKE-OFF DETAIL
SCALE: NONE



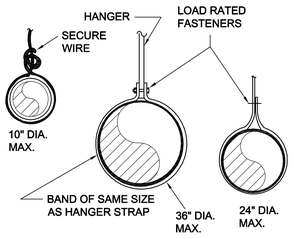
2A DETAIL
SCALE: NONE



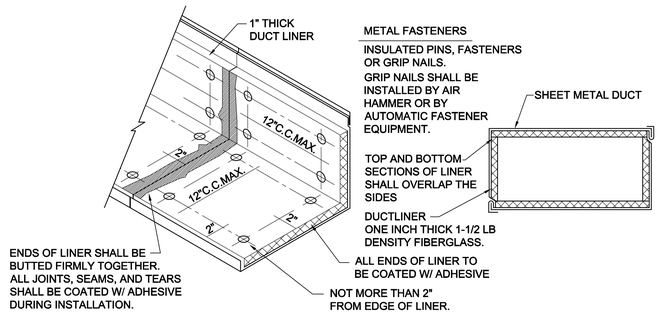
2 ROUND-TO-ROUND DUCT CONSTRUCTION DETAIL
SCALE: NONE



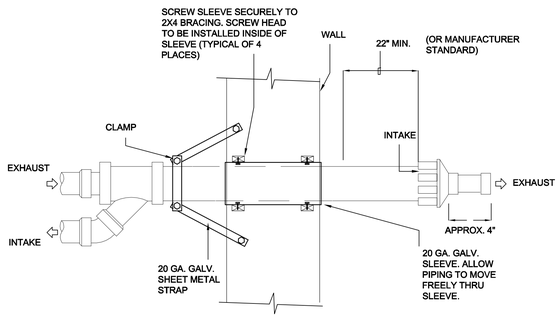
3 CONCENTRIC ROOF TERMINATION DETAIL
SCALE: NONE



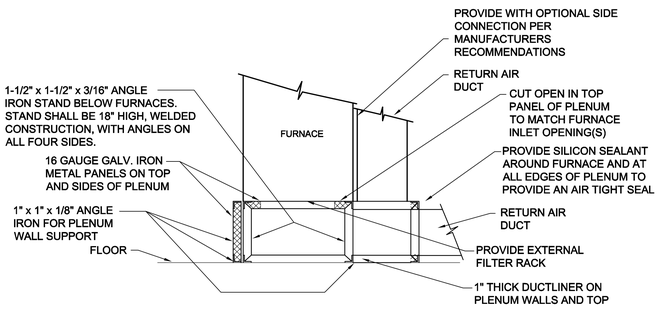
4 DUCT SUPPORTS
SCALE: NONE



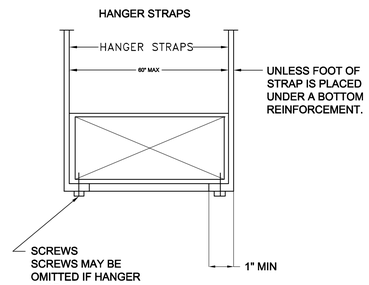
5 DUCT LINER DETAIL
SCALE: NONE



6 CONCENTRIC WALL TERMINATION DETAIL
SCALE: NONE



7 FURNACE PLENUM CONSTRUCTION DETAIL
SCALE: NONE



8 DUCT SUPPORTS
SCALE: NONE

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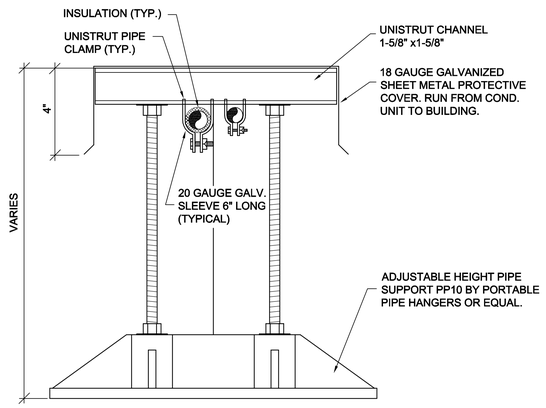
SHEET #: ME5.1

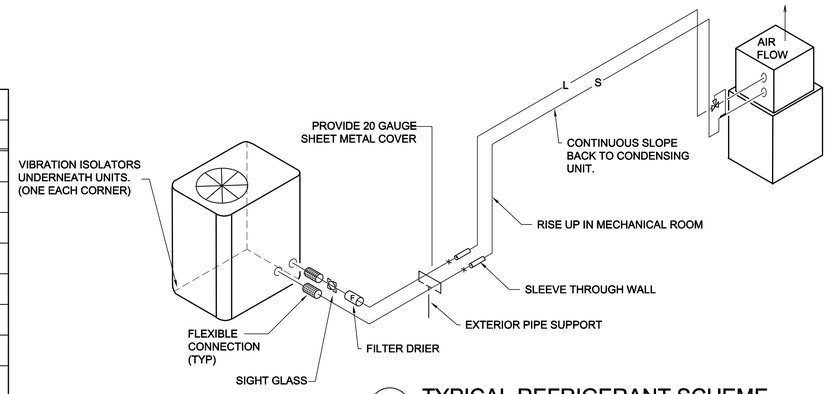
NOTE:
RUN STEEL COVER CONTINUOUS FROM CONDENSING UNIT TO RISERS OR PENETRATIONS AT BUILDING WALL OR ROOF.



1 EXTERIOR REFRIGERANT PIPE SUPPORT
SCALE: NONE

REFRIGERANT PIPING LEGEND

SYMBOL	DESCRIPTION
	EXPANSION VALVE.
	MOISTURE INDICATING SIGHT GLASS
	FLEXIBLE CONNECTION
F	FILTER DRIER
	PIPE SUPPORT. SEE DETAIL
	EXTERIOR PIPE SUPPORT. SEE DETAIL
	TRAP. ONE PIECE FACTORY FABRICATED
	DIRECTION OF SLOPE DOWN
S	SUCTION LINE
L	LIQUID LINE

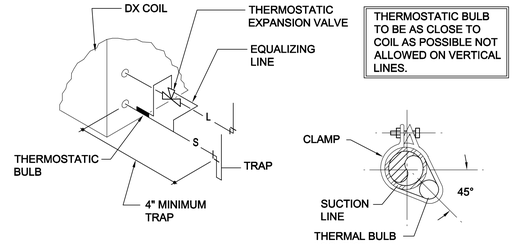


2 TYPICAL REFRIGERANT SCHEME
SCALE: NONE

REFRIGERANT PIPE SIZES

CONDENSING UNIT	LIQUID	SUCTION
CU 1	3/8	1-1/8
CU 2	3/8	1-1/8
CU 3	3/8	7/8
CU 4	3/8	7/8

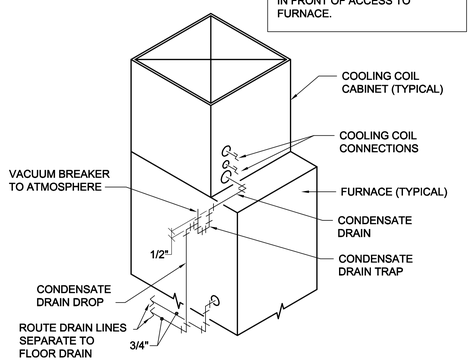
VERIFY PIPE SIZING WITH MANUFACTURER'S RECOMMENDATION. ENGINEER SHALL BE CONTACTED IF MANUFACTURERS RECOMMENDATIONS ARE DIFFERENT THAN THE ABOVE SIZES. FOLLOW MANUFACTURERS RECOMMENDATIONS TO INSURE MANUFACTURER WARRANTY IS EFFECTIVE UNLESS DIRECTED OTHERWISE BY ENGINEER.



THERMOSTATIC BULB TO BE AS CLOSE TO COIL AS POSSIBLE NOT ALLOWED ON VERTICAL LINES.

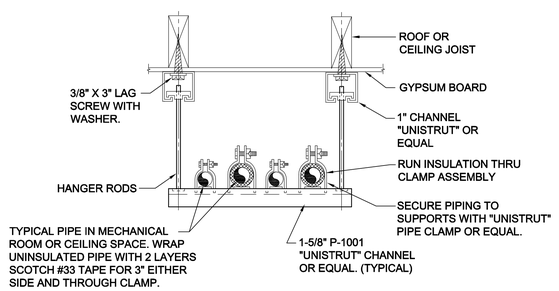
3 SINGLE REFRIGERANT COIL CONNECTION DETAIL
SCALE: NONE

NOTE:
DO NOT RUN CONDENSATE DRAIN IN FRONT OF ACCESS TO FURNACE.

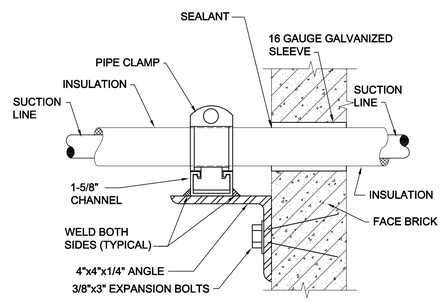


4 CONDENSATE DRAIN TRAP DETAIL
SCALE: NONE

NOTE:
TYPICAL CEILING SPACE. ADAPT TO SITE CONDITIONS IN A PROFESSIONAL MANNER.



5 SUSPENDED REFRIGERANT PIPE SUPPORT AT CEILING
SCALE: NONE



6 REFRIGERANT PIPE SUPPORT AT WALL
SCALE: NONE

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DRAWING: MECHANICAL DETAILS
SHEET #: ME5.2

REGISTER, LOUVER & GRILLE SCHEDULE

SYMBOL	TYPE	SERVICE	MAX CFM	NOMINAL SIZE	CEILING TYPE	SCHEDULE NOTES
TG-1	SIDEWALL	TRANSFER	265	12X6	N/A	1,2,4
TG-2	SIDEWALL	TRANSFER	400	18X6	N/A	1,2,4
TG-3	SIDEWALL	TRANSFER	1060	48X6	N/A	1,2,4
L-1	SIDEWALL	FRESH AIR	680	36/18	N/A	1,5,7
RG-1	SIDEWALL	RETURN	1400	24/18	N/A	1,4,6
RG-2	FLOOR	RETURN	1000	48/6	N/A	1,2,3

REGISTER. LOUVER AND DIFFUSER SCHEDULE NOTES:

1. MAXIMUM NC = 25 @ MAXIMUM CFM NOTED.
2. SHALL BE PRICE LBP 15B OR EQUAL BY OTHER APPROVED MANUFACTURERS. SEE SPECIFICATIONS FOR APPROVED MANUFACTURERS.
3. FINISH SHALL BE ANODIZED ALUMINUM.
4. FINISH SHALL BE STANDARD WHITE.
5. SHALL BE RUSKIN ELF 811 OR EQUAL BY OTHER APPROVED MANUFACTURERS. PROVIDE WITH BIRD SCREEN AND BAKED ENAMEL FINISH WITH COLOR BY ARCHITECT.
6. SHALL BE PRICE 91L OR EQUAL BY OTHER APPROVED MANUFACTURERS. SEE SPECIFICATIONS FOR APPROVED MANUFACTURERS.
7. FINISH TO BE SPECIFIED BY ARCHITECT.

DIFFUSER SCHEDULE

SYMBOL	TYPE	MAX CFM	FACE SIZE	TYPE	BLOW	PATTERN	SCHEDULE NOTES
D-1 CFM	FLOOR	265	12X6	N/A	1-WAY	▲ ☒	2,3,6,7,8
D-2 CFM	FLOOR	400	18X6	N/A	1-WAY	▲ ☒	2,3,6,7,8
D-3 CFM	FLOOR	530	24X6	N/A	1-WAY	▲ ☒	2,3,6,7,8
D-4 CFM	SIDEWALL	265	12X6	N/A	1-WAY	▲ ☒	2,3,5,7,8
D-5 CFM	SIDEWALL	400	18X6	N/A	1-WAY	▲ ☒	2,3,5,7,8
D-6 CFM	CEILING	150	6X6	HARD	4--WAY	◀▲▶▼ ☒	1,2,3,4,5
D-7 CFM	CEILING	300	9X9	HARD	4--WAY	◀▲▶▼ ☒	1,2,3,4,5
D-8 CFM	CEILING	500	12X12	HARD	4--WAY	◀▲▶▼ ☒	1,2,3,4,5

1. PROVIDE LAY-IN CEILING AND BORDER / MODULE AS REQUIRED. SEE ARCHITECTURAL CEILING PLANS.
2. MAXIMUM NC 25 AT CFM LISTED.
3. PROVIDE TRANSITION TO DIFFUSER NECK SIZE AS REQUIRED TO DUCT WORK SHOWN ON PLAN.
4. DIFFUSER SHALL BE PRICE MODEL SMD OR EQUAL BY APPROVED MANUFACTURER IN SPECIFICATIONS.
5. FINISH SHALL BE STANDARD WHITE.
6. FINISH SHALL BE ANODIZED ALUMINUM.
7. DIFFUSER SHALL BE PRICE MODEL LBP 15B OR EQUAL BY APPROVED MANUFACTURER IN SPECIFICATIONS.
8. PROVIDE WITH ADJUSTABLE FACE DAMPER.

EXHAUST FAN SCHEDULE

SYMBOL	MANUFACTURER & MODEL No.	SERVES	C.F.M.	STATIC PRESSURE IN. WG.	MAX NOISE SONES	MOTOR			OPER. WT. (LBS)	SCHEDULE NOTES
						V - Ø - Hz	W	RPM		
EF 1	COOK GEMINI GC-320	UPSTAIRS BATHROOM	130	0.3	3.5	115-1-60	54	1365	35	1
EF 2	COOK GEMINI GC-420	BREAK ROOM	300	0.3	3.0	115-1-60	130	1145	40	1
EF 3	COOK GEMINI GC-320	BASEMENT BATHROOM	130	0.3	3.5	115-1-60	54	1365	35	1

1. PROVIDE WITH WALL CAP

FURNACE SCHEDULE

SYMBOL	No. REQUIRED	MIN. REQUIRED OUTPUT BTU/HR	MINIMUM S.C.F.M.	EXT. STATIC PRESSURE IN W.G.	MOTOR			MANUF. & MODEL #	SCHEDULE NOTES
					V - Ø - Hz	MIN. HP	RPM		
F 1	5 TON	113,000	2000	.5	208/1/60	1	250-1300	CARRIER 58MVB120-20	1,2,3,4,5,6
F 2	5 TON	113,000	2000	.5	208/1/60	1	250-1300	CARRIER 58MVB120-20	1,2,3,4,5
F 3	3.5 TON	75,000	1395	.5	208/1/60	1/2	250-1300	CARRIER 58MVB080-14	1,2,3,4,5
F 4	3.5 TON	75,000	1395	.5	208/1/60	1/2	250-1300	CARRIER 58MVB080-14	1,2,3,4,5

1. SEA LEVEL RATING.
2. FURNACE SYMBOLS CORRESPOND WITH CONDENSING UNIT AND COOLING COIL SYMBOLS.
3. SEE SPECIFICATIONS FOR APPROVED MANUFACTURERS.
4. CAPACITIES SHOWN ARE FOR INDIVIDUAL FURNACES AND NOT FOR TANDEM TOTALS.
5. MAY VARY ACCORDING TO MANUFACTURER.
6. PROVIDE WITH CONDENSATE PUMP.

AIR COOLED CONDENSING UNIT SCHEDULE

SYMBOL	MIN SIZE (TONS)	COMPRESSOR MOTOR			SEER	MCA	MOCP	MANUF. & MODEL #	SCHEDULE NOTES
		No.	RLA (EACH)	LRA (EACH)					
CU 1	5	1	26.4	134	13	34.2	50	CARRIER ABA060	1,2,3,4,5
CU 2	5	1	26.4	134	13	34.2	50	CARRIER ABA060	1,2,3,4,5
CU 3	3.5	1	17.9	112	13	23.5	40	CARRIER ABA042	1,2,3,4,5
CU 4	3.5	1	17.9	112	13	23.5	40	CARRIER ABA042	1,2,3,4,5

1. REFRIGERANT R-410A.
2. AT DESIGN CONDITIONS AND 95° F EAT.
3. CONDENSING UNIT SYMBOLS CORRESPOND WITH FURNACE SYMBOLS, EXCEPT AS NOTED.
4. SEE SPECIFICATIONS FOR APPROVED MANUFACTURERS.
5. ELECTRIC SERVICE: 208/1Ø/60HZ
6. MAINTAIN 3' CLEARANCE BETWEEN CONDENSING UNITS.
7. INSTALL CONDENSING UNITS AND ASSOCIATED REFRIGERANT PIPING PER MANUFACTURERS RECOMMENDATIONS.

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PHASE: CD
DATE: 12-19-08
DRAWING: MECHANICAL SCHEDULES
SHEET #: ME6.1

PLUMBING LEGEND

MEANING	SYMBOL OR ABBREVIATION	MEANING	SYMBOL OR ABBREVIATION
HOT WATER LINE	——— - - ———	WALL CLEANOUT	WCO
COLD WATER LINE	——— - ———	CLEANOUT	CO
HOT WATER RECIRCULATING LINE	——— - - - ———	CLEANOUT TO GRADE	COTG
VENT LINE	— — — — —	FLOOR CLEANOUT	FCO
WASTE LINE	━ ━ ━ ━ ━	BALL VALVE	ϕ
GAS LINE	————————	UNION	—‖—
VENT THRU ROOF	VTR	CONNECTION TO EXISTING PIPING	◕
UNDER FLOOR	UF	REGULATOR	Ⓡ

PLUMBING GENERAL NOTES:

G-1 ALL PLUMBING SHALL BE INSTALLED AND CONFORM TO THE 2006 EDITION OF THE INTERNATIONAL PLUMBING CODE (IPC) WITH UTAH ANNOTATIONS AND LOCAL AUTHORITY REQUIREMENTS.

G-2 ALL PIPING MATERIALS SHALL MEET ALL REQUIREMENTS OF IPC AND LOCAL AUTHORITY. PLASTIC PIPING SHALL BE ALLOWED ONLY WHERE ALLOWED BY CODE. PLASTIC PIPING SHALL NOT BE ROUTED THROUGH RETURN AIR PLENUMS OR OTHER AREAS PROHIBITED BY THE IMC, IPC OR NFPA CODES OR BY LOCAL AUTHORITY

G-3 GAS PIPING INSTALLATION SHALL BE IN STRICT ACCORDANCE WITH GAS COMPANY REGULATIONS, NFPA CODE REQUIREMENTS, AND LOCAL AUTHORITY.

G-4 ALL MATERIALS SHALL BE NEW AND SHALL BE DOMESTIC MADE UNLESS SPECIFICALLY APPROVED OTHERWISE IN WRITING BY ARCHITECT OR OWNER.

G-5 PROVIDE VACUUM BREAKERS AND BACK FLOW PREVENTERS WHERE REQUIRED BY CODE OR WHERE THERE MAY BE ANY POSSIBLE CHANCE FOR CROSS CONTAMINATION. PREVENTERS SHALL BE INSTALLED IN ACCORDANCE WITH UTAH CODE.

G-6 ALL PLUMBING INFORMATION IS NOT LIMITED TO THE PLUMBING DRAWINGS. CONTRACTOR SHALL BE RESPONSIBLE FOR INFORMATION ON ALL OTHER CONSTRUCTION DOCUMENTS INCLUDING ARCHITECTURAL DRAWING, STRUCTURAL DRAWINGS, MECHANICAL DRAWINGS, AND ELECTRICAL DRAWINGS.

G-7 THE WORKING DRAWINGS ARE DIAGRAMMATIC. BECAUSE OF THE SMALL SCALE OF THE DRAWING, THEY DO NOT SHOW EVERY OFFSET, BEND OR ELBOW NECESSARY FOR THE COMPLETE INSTALLATION IN THE SPACE PROVIDED. ALL PIPING SHALL BE CHECKED AND COORDINATED WITH THE ARCHITECTURAL, STRUCTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS.

G-8 COORDINATE ALL PIPING AND PLUMBING EQUIPMENT WITH ALL OTHER TRADES AND/OR CONTRACTORS PRIOR TO INSTALLATION.

G-9 ANY AND ALL ALTERATIONS TO THE SYSTEM SHOWN SHALL BE THE RESPONSIBILITY OF THIS CONTRACTOR AND ARCHITECT/ENGINEER SHALL BE NOTIFIED IN WRITING PRIOR TO CHANGES.

G-10 GAS LINE FITTINGS SHALL BE STANDARD WELD FITTINGS WITH TAPERED REDUCERS. DO NOT USE VALVES, UNIONS, OR AUTO CONTROLS IN GAS LINES ROUTED IN INACCESSIBLE CONCEALED SPACES.

G-11 ALL WATER SYSTEMS SHALL MEET THE REQUIREMENTS OF ANSI/NSF STANDARD 61 SECTION 9 (1998), CONCERNING METAL CONTAMINANTS IN THE WATER SYSTEM.

G-12 WATER PIPING SHALL NOT BE ROUTED IN OUTSIDE WALLS OR ON EXTERIOR SIDE OF BUILDING INSULATION ENVELOPE.

G-13 WATER HAMMER ARRESTORS SHALL BE INSTALLED IN ALL WATER LINES WITH QUICK OPEN OR QUICK CLOSE VALVES.

WATER HAMMER ARRESTOR SCHEDULE:

TYPE A 1-11 FIXTURE UNITS
TYPE B 12-32 FIXTURE UNITS
TYPE C 33-60 FIXTURE UNITS
TYPE D 61-113 FIXTURE UNITS

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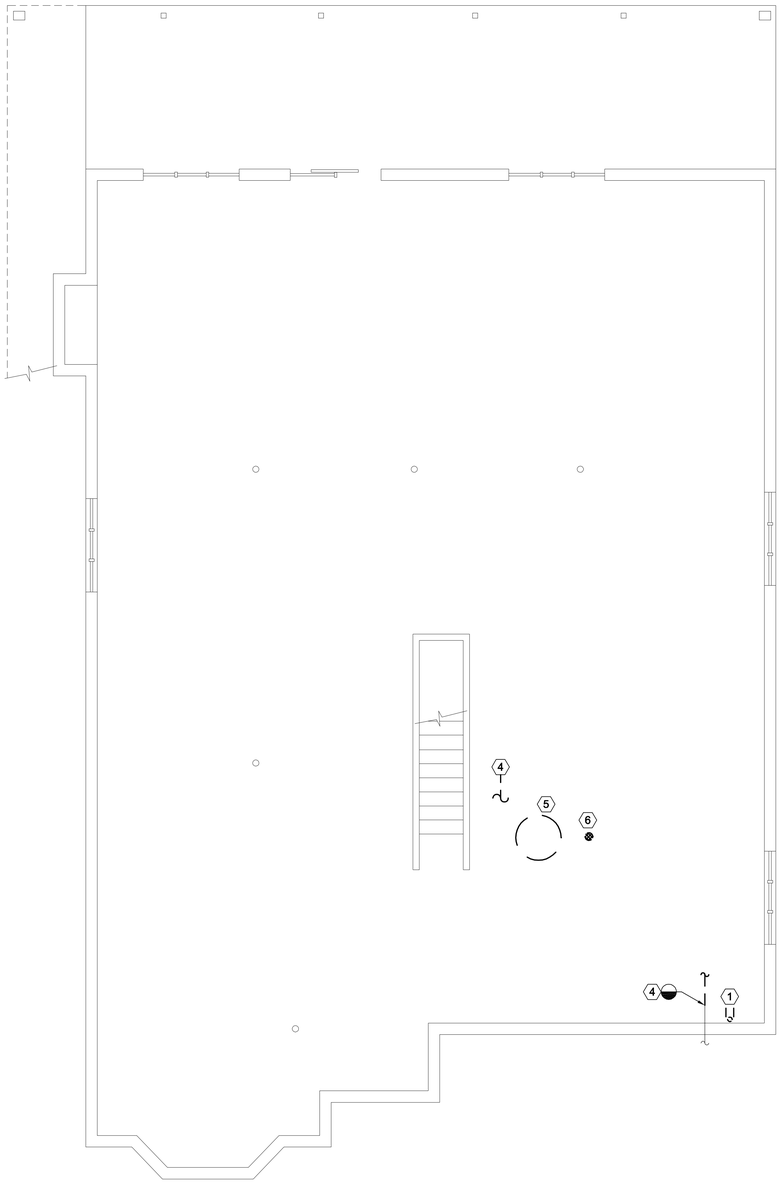
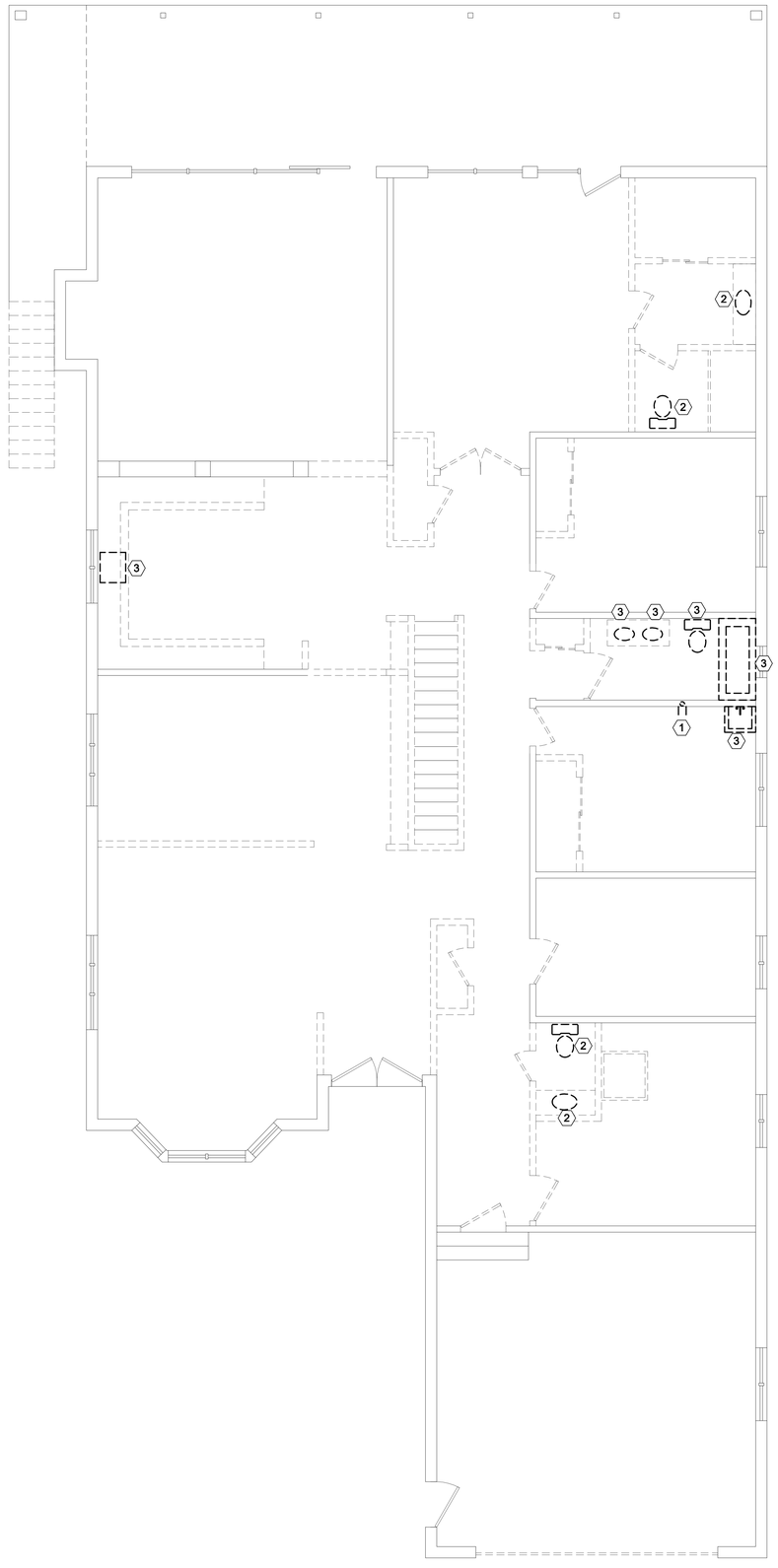
DRAWING PLUMBING LEGEND AND GENERAL NOTES

SHEET # PG0.1



PLUMBING DEMOLITION BASEMENT FLOOR PLAN

SCALE: 1/4" = 1'-0"



PLUMBING DEMOLITION FIRST LEVEL FLOOR PLAN

SCALE: 1/4" = 1'-0"

SHEET NOTES:

1. REMOVE EXISTING WASHER AND DRYER PIPING BACK TO MAIN.
2. REMOVE FIXTURES AND ASSOCIATED PLUMBING PIPING BACK TO MAIN.
3. REMOVE FIXTURES.
4. REMOVE GAS PIPING BACK TO EXTERIOR BASEMENT WALL PENETRATION.
5. REMOVE EXISTING WATER HEATER AND ASSOCIATED CONTROLS, FLUES, ACCESSORIES, ETC.
6. RELOCATE EXISTING FLOOR DRAIN. PROVIDE NEW GRID STRAINER. SEE PE1.1.

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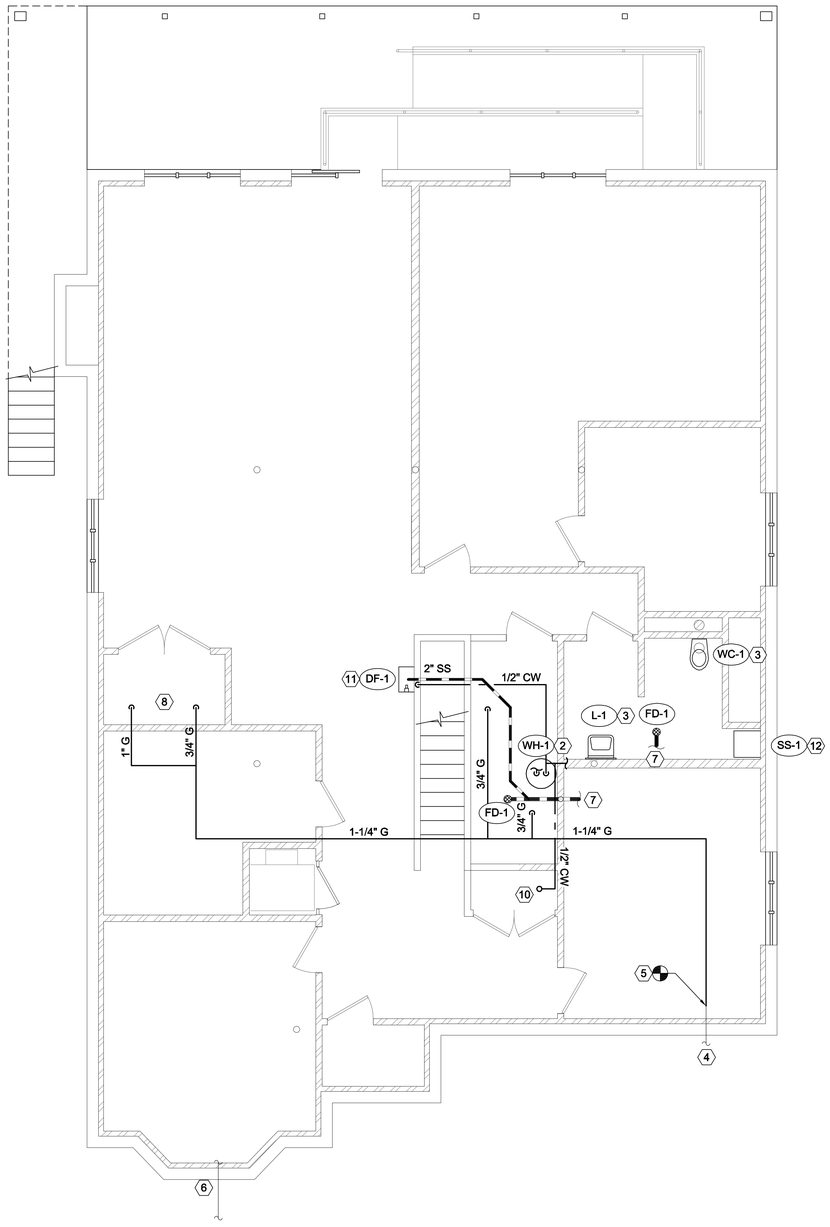
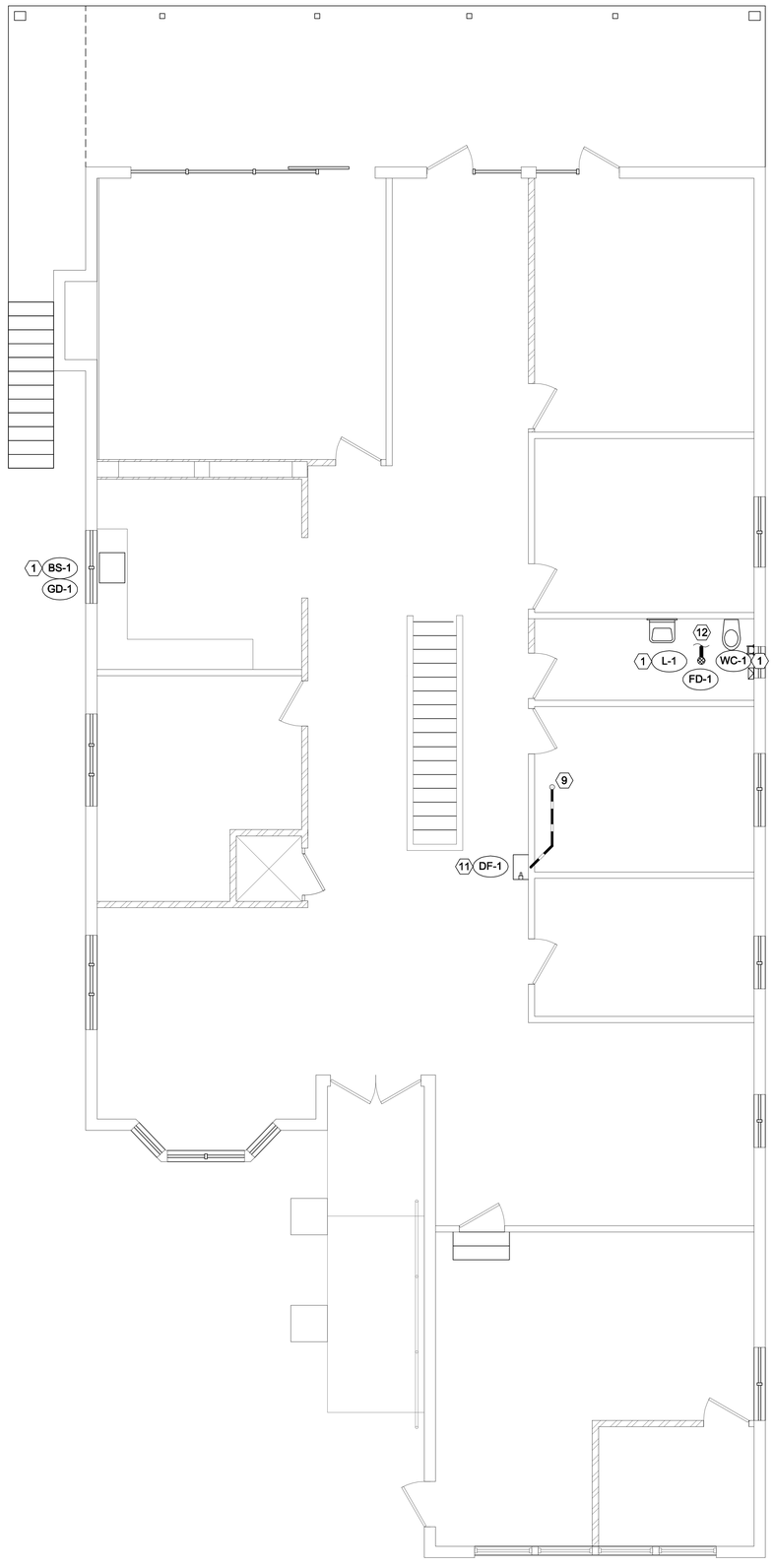
DATE: 12-19-08
DRAWING: PLUMBING DEMOLITION PLANS
SHEET #: PD1.1



PLUMBING BASEMENT FLOOR PLAN

SCALE: 1/4" = 1'-0"



PLUMBING FIRST LEVEL FLOOR PLAN

SCALE: 1/4" = 1'-0"

SHEET NOTES:

1. RECONNECT TO EXISTING PLUMBING. MODIFY AND EXTEND PIPING TO NEW FIXTURES.
2. RECONNECT EXISTING WATER PIPING TO NEW WATER HEATER. MODIFY AND EXTEND PIPING AS NEEDED.
3. TIE INTO ROUGH INS FOR NEW BATHROOM GROUP.
4. COORDINATE WITH QUESTAR TO UPGRADE METER IN ORDER TO MEET NEW GAS REQUIREMENTS.
   GAS REQUIREMENTS:
   DESIGN PRESSURE: 4 OZ
   MAX CFH: 450
   LONGEST LENGTH: 80'
5. CONNECT TO EXISTING GAS LINE IN THIS APPROXIMATE LOCATION.
6. EXISTING WATER MAIN AND PRV SHALL REMAIN.
7. TIE INTO EXISTING SANITARY SEWER LINE. COORDINATE WITH G.C. TO SAW CUT AND PATCH FLOOR AS NECESSARY. FIELD VERIFY EXACT LOCATIONS AND CONDITIONS PRIOR TO CUTTING.
8. PROVIDE CONDENSATE PUMP TO COLLECT CONDENSATE FROM FURNACE F-1 & F-3 AND PIPE TO MECHANICAL ROOM. SEE MECHANICAL PLANS AND SCHEDULES.
9. 2" SANITARY SEWER LINE DOWN. TIE IN TO NEW SANITARY SEWER LINE FOR NEW FLOOR DRAINS.
10. 1/2" CW LINE UP TO NEW DRINKING FOUNTAIN.
11. PROVIDE WITH AIR ADMITTANCE VALVE.
12. TIE INTO EXISTING SANITARY SEWER LINE. FIELD VERIFY EXACT LOCATIONS AND CONDITIONS.

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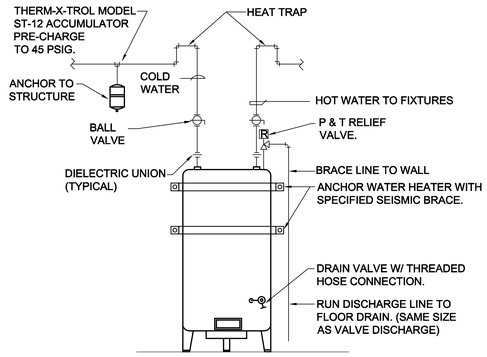
SHEET #: PE1.1

WATER HEATER SCHEDULE

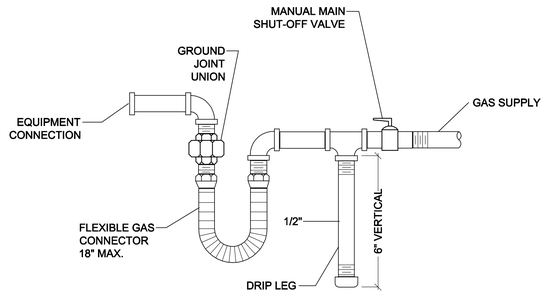
SYMBOL	INPUT (kW)	GPH RECOVERY 90°F	STORAGE CAPACITY	RELIEF VALVE		V - Ø - Hz	COMMENTS
				BTU RATING	PRESSURE		
WH-1	3	14	20 GALLONS	PER MANUFACTURERS RECOMMENDATIONS		208/1/60	AO SMITH DEL 20 OR EQUAL

PLUMBING FIXTURE SCHEDULE

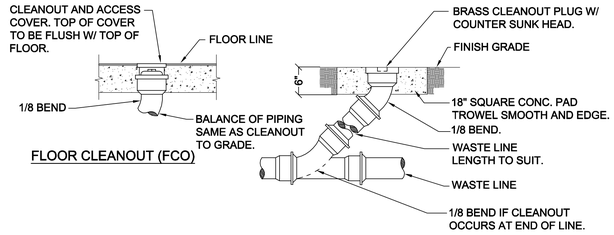
SYMBOL	FIXTURE	INDIVIDUAL LINE SIZES					REMARKS
		TRAP	WASTE	VENT	COLD WATER	HOT WATER	
WC-1	WATER CLOSET	INT	4"	2"	1"	-	FLOOR MOUNTED, TANK TYPE TOTO OR EQUAL IN SPECS.
BS-1	BREAK SINK	1-1/2"	1-1/2"	1-1/2"	1/2"	1/2"	SINGLE COMPARTMENT. FAUCET SHALL BE MOEN OR EQUAL IN SPECS.
L-1	LAVATORY	1-1/2"	1-1/2"	1-1/2"	1/2"	1/2"	SELF SUPPORTING PROVIDE WITH THERMOSTATIC AND PRESSURE MIXING VALVE. SHALL BE MOEN OR EQUAL IN SPECS.
GD-1	GARBAGE DISPOSAL	-	-	-	-	-	INSINKERATOR BADGER 5XP 3/4HP 1 ϕ / 120 V / 60 HZ 17 LBS 4 OZ, 12-5/8" HEIGHT
SS-1	SERVICE SINK	2"	2"	1-1/2"	3/4"	3/4"	FLOOR MOUNTED
DF-1	DRINKING FOUNTAIN	1-1/2"	1-1/2"	1-1/2"	1/2"	-	ELECTRIC BI-LEVEL
FD-1	FLOOR DRAIN	3"	3"	2"	-	-	PROVIDE WITH TRAP PRIMER



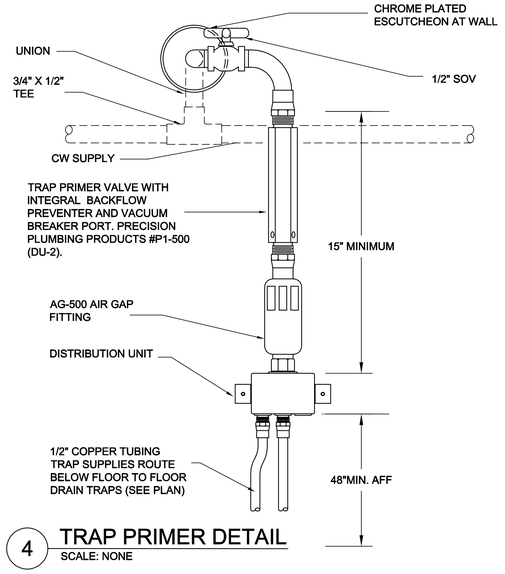
1 ELECTRIC WATER HEATER DETAIL
SCALE: NONE



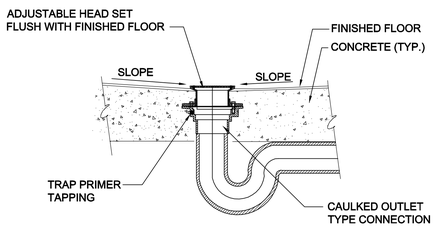
2 GAS LINE CONNECTION DETAIL
SCALE: NONE



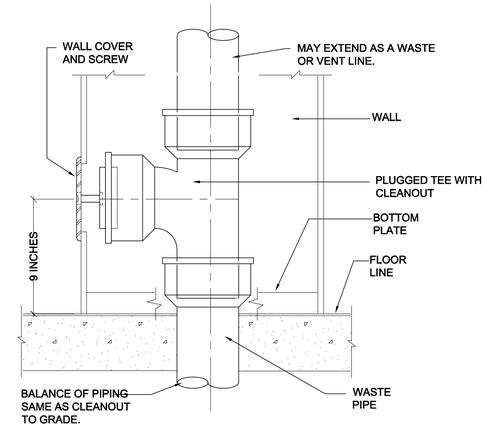
3 FLOOR CLEAN-OUT DETAILS
SCALE: NONE



4 TRAP PRIMER DETAIL
SCALE: NONE



5 FLOOR DRAIN DETAIL
SCALE: NONE



6 WALL CLEAN-OUT DETAIL
SCALE: NONE

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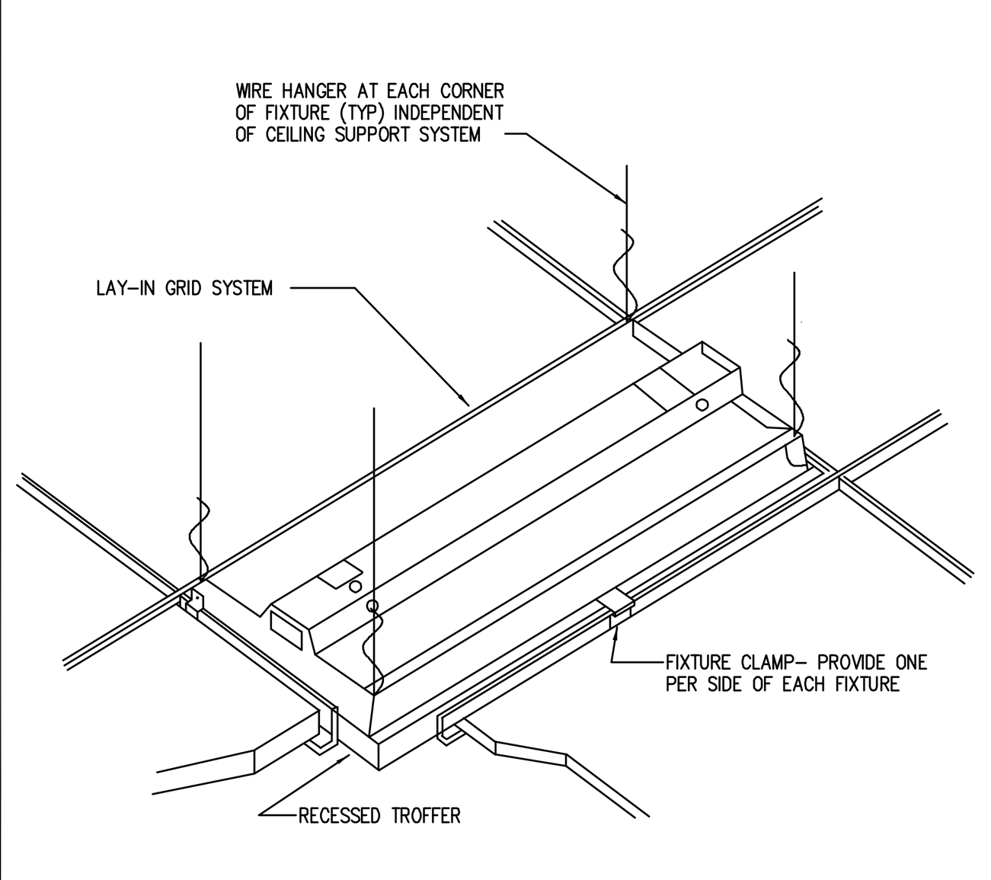
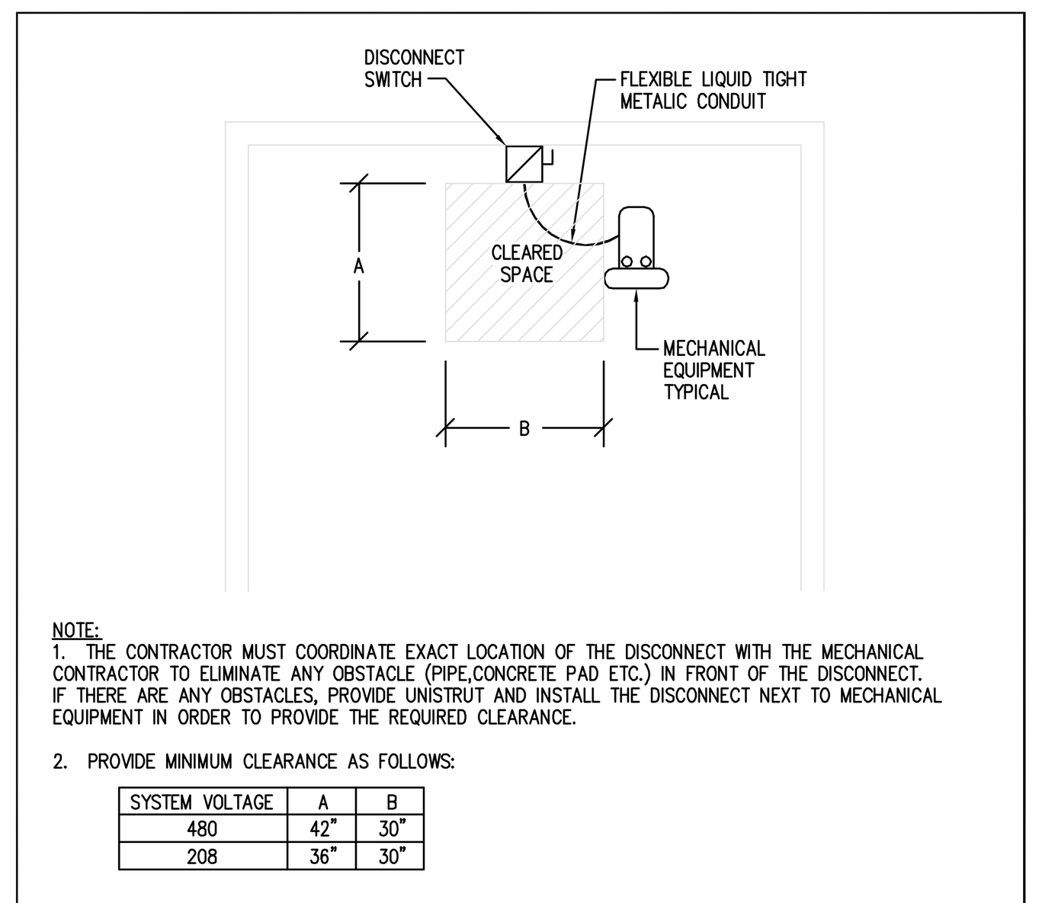
SHEET # PE5.1



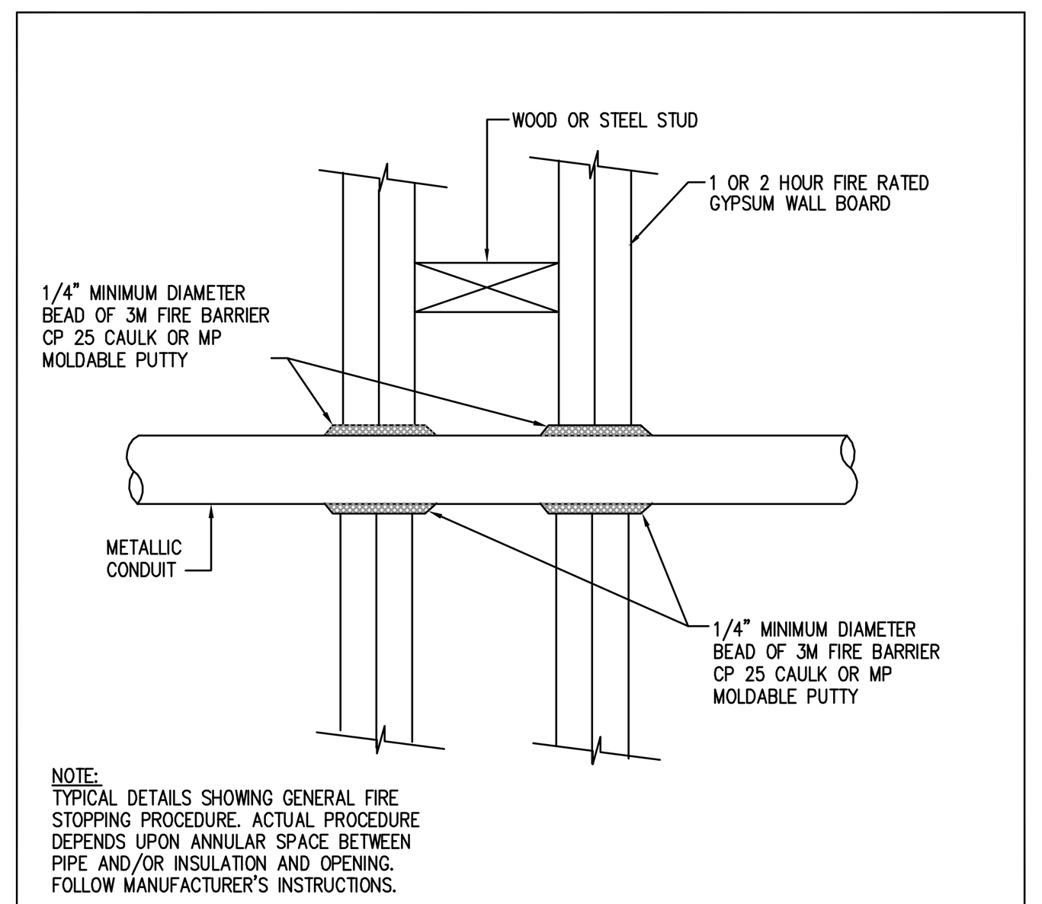
TYPICAL RECESSED FIXTURE MOUNTING DETAIL

NOT TO SCALE



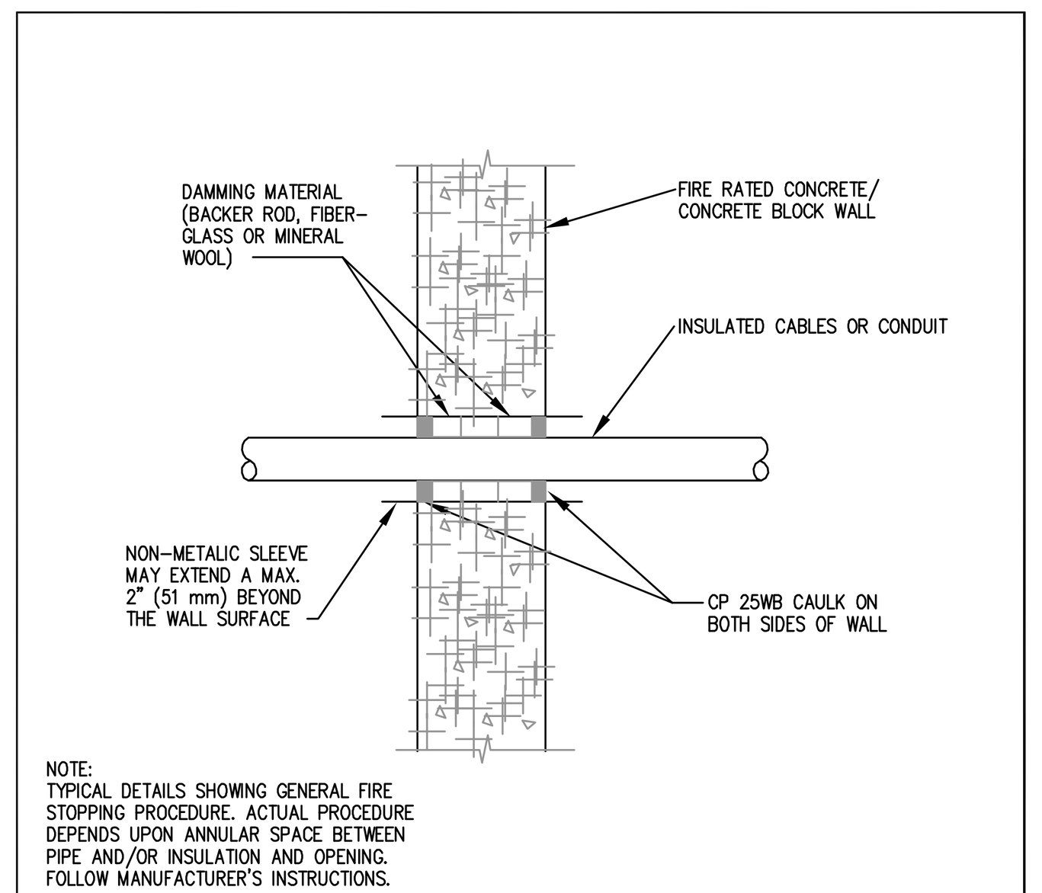
TYPICAL DISCONNECT CLEARANCE REQUIREMENTS

NOT TO SCALE



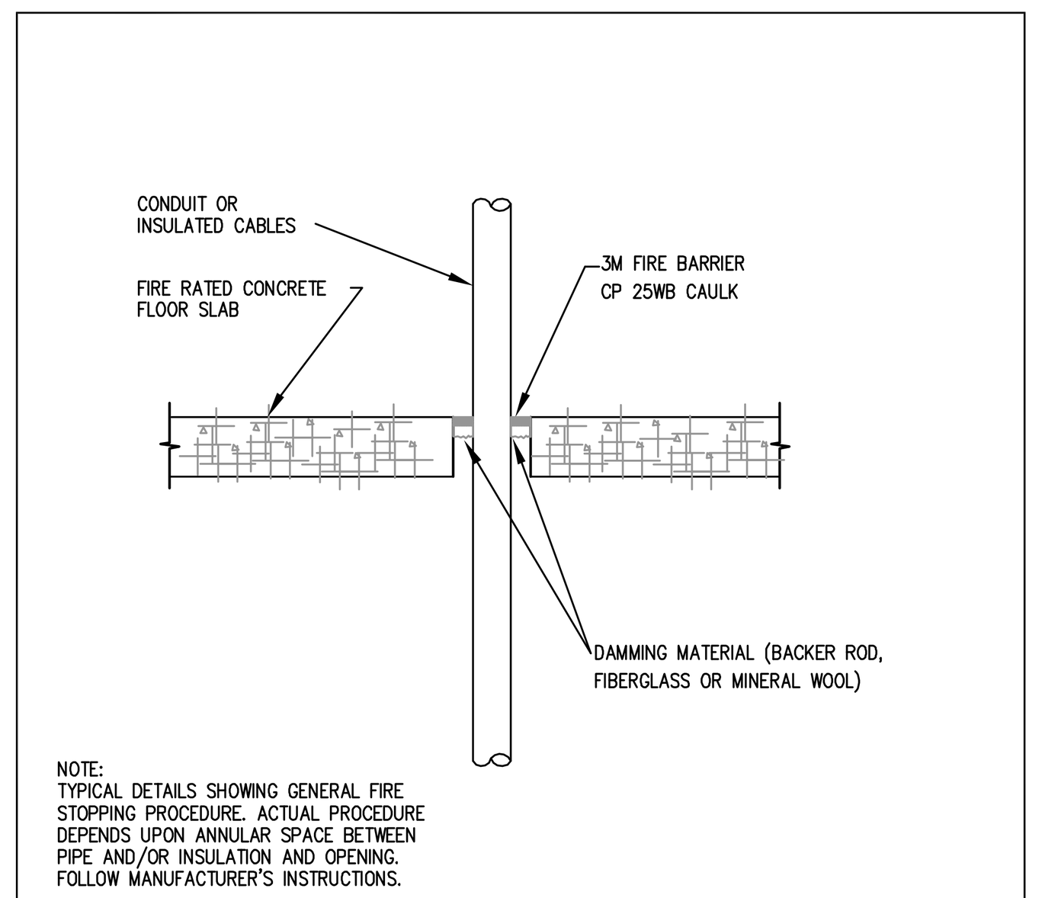
FIRESTOP FOR METAL CONDUIT THROUGH GYPSUM WALL BOARD

NOT TO SCALE



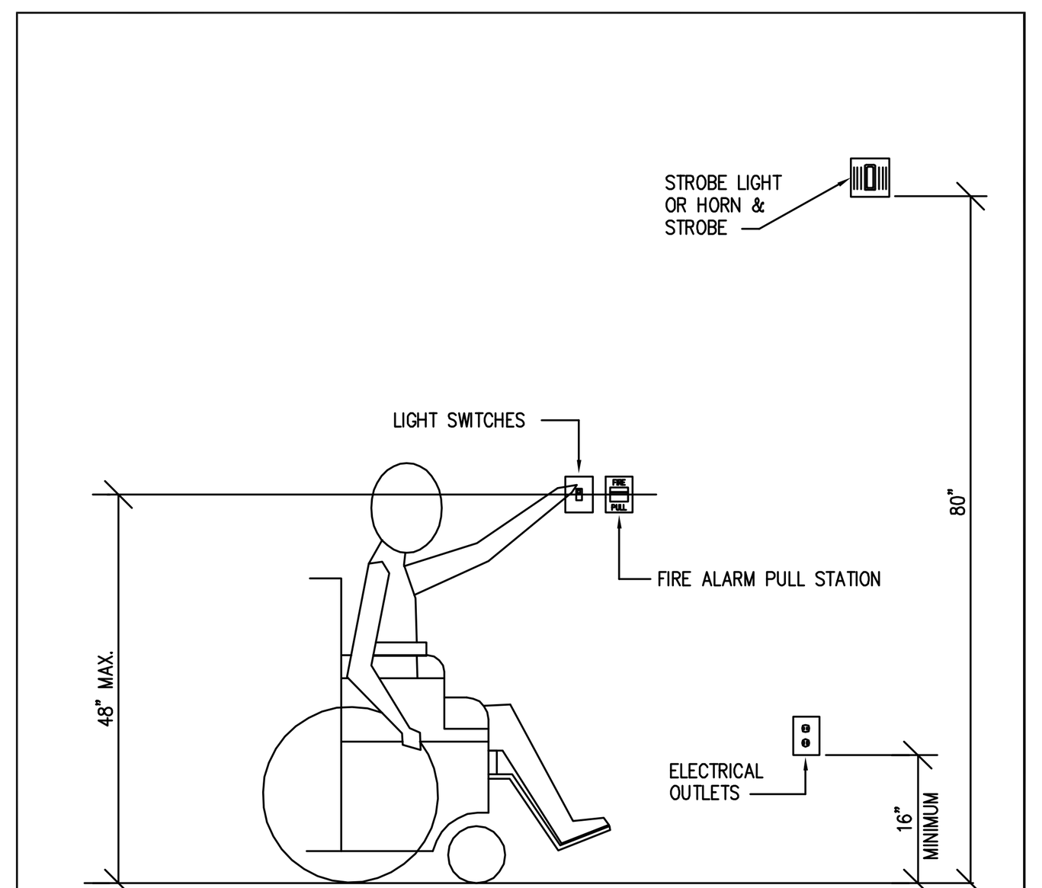
TYPICAL FIRESTOP FOR CABLES/CONDUIT THROUGH CONCRETE WALLS

NOT TO SCALE



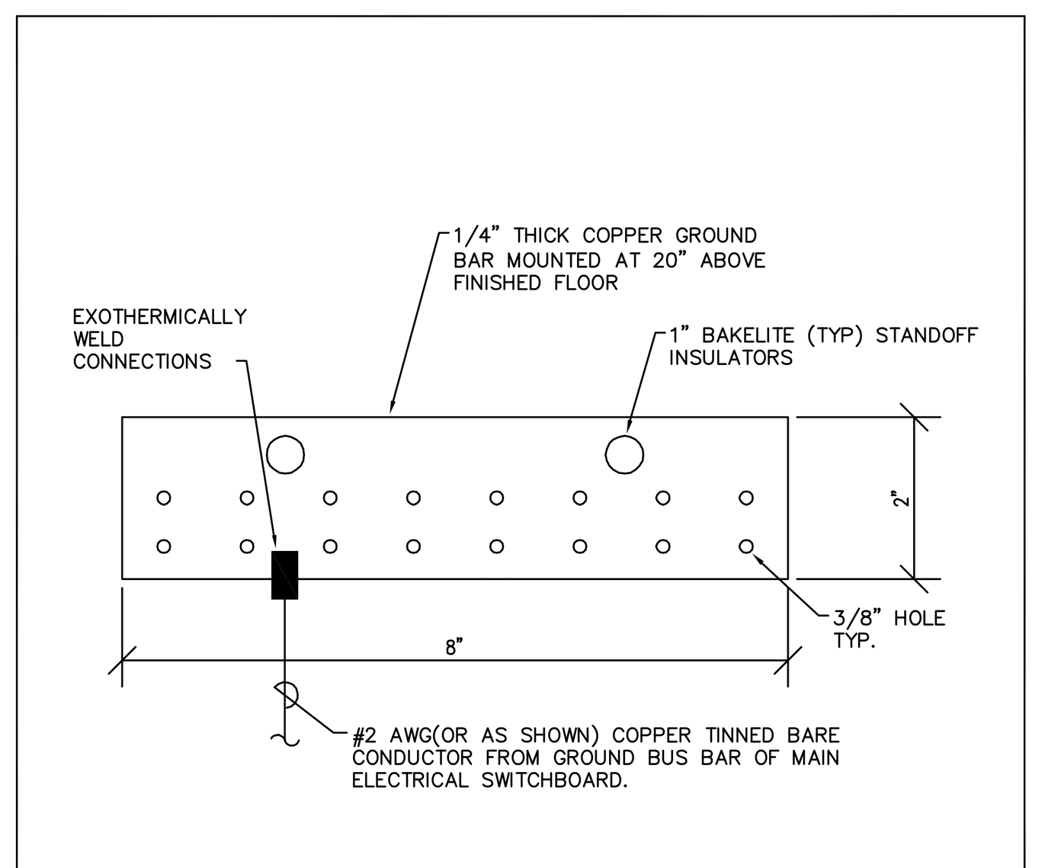
TYPICAL FIRESTOP FOR CABLES/CONDUIT THROUGH CONCRETE FLOORING

NOT TO SCALE



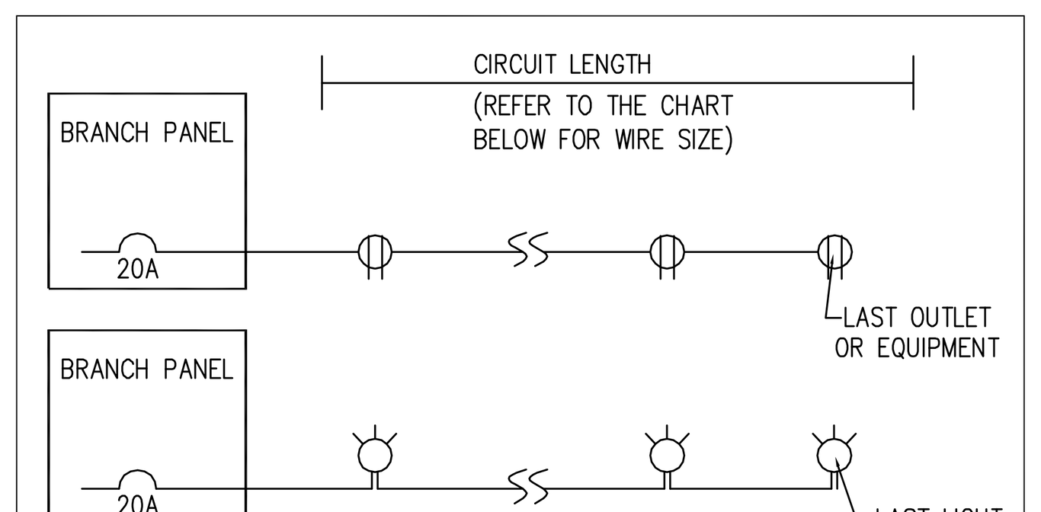
STANDARD HEIGHTS FOR HANDICAPPED ACCESS

NOT TO SCALE



T.T.B. COPPER GROUND BUS BAR (ONE PER T.T.B.)

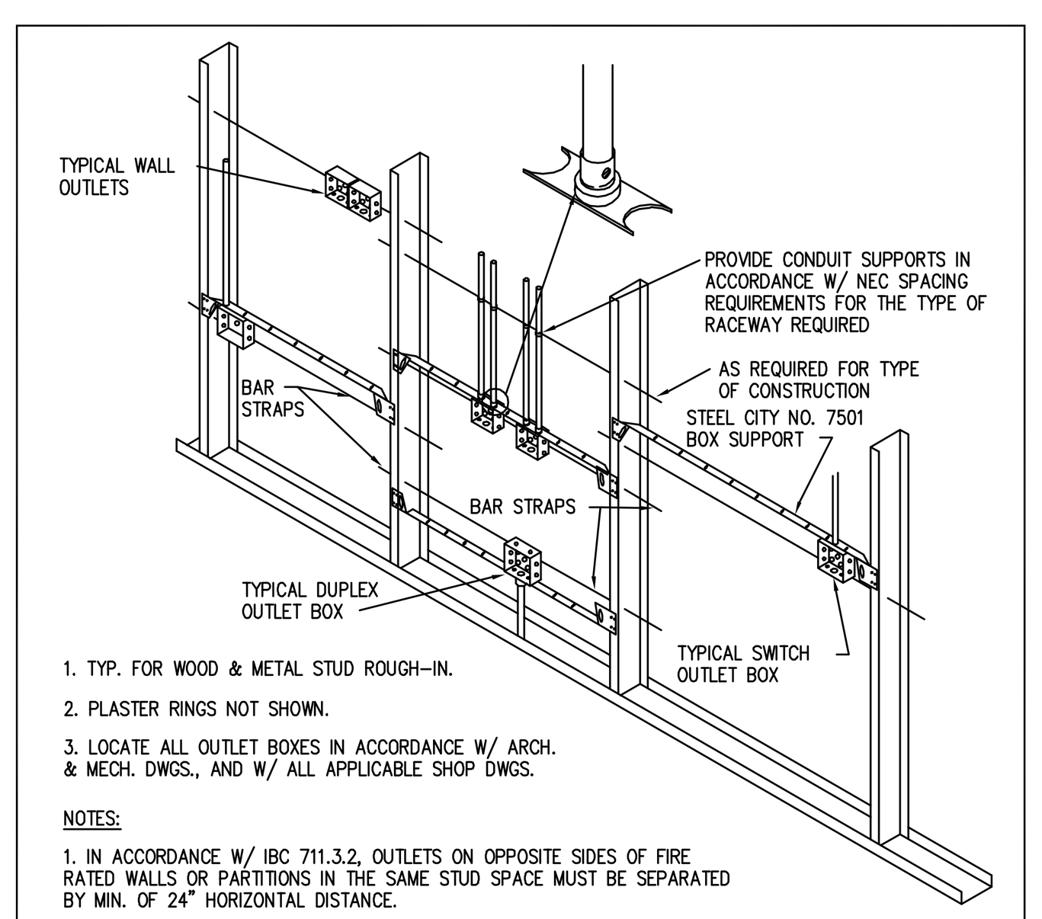
NOT TO SCALE



MINIMUM CONDUCTOR SIZE (PHASE AND NEUTRAL)	MAX CIRCUIT LENGTH (120 VOLT)	MAX CIRCUIT LENGTH (277 VOLT)
#12	75 FT	180 FT
#10	125 FT	260 FT
#8	205 FT	420 FT
#6	325 FT	660 FT
#4	400 FT	900 FT

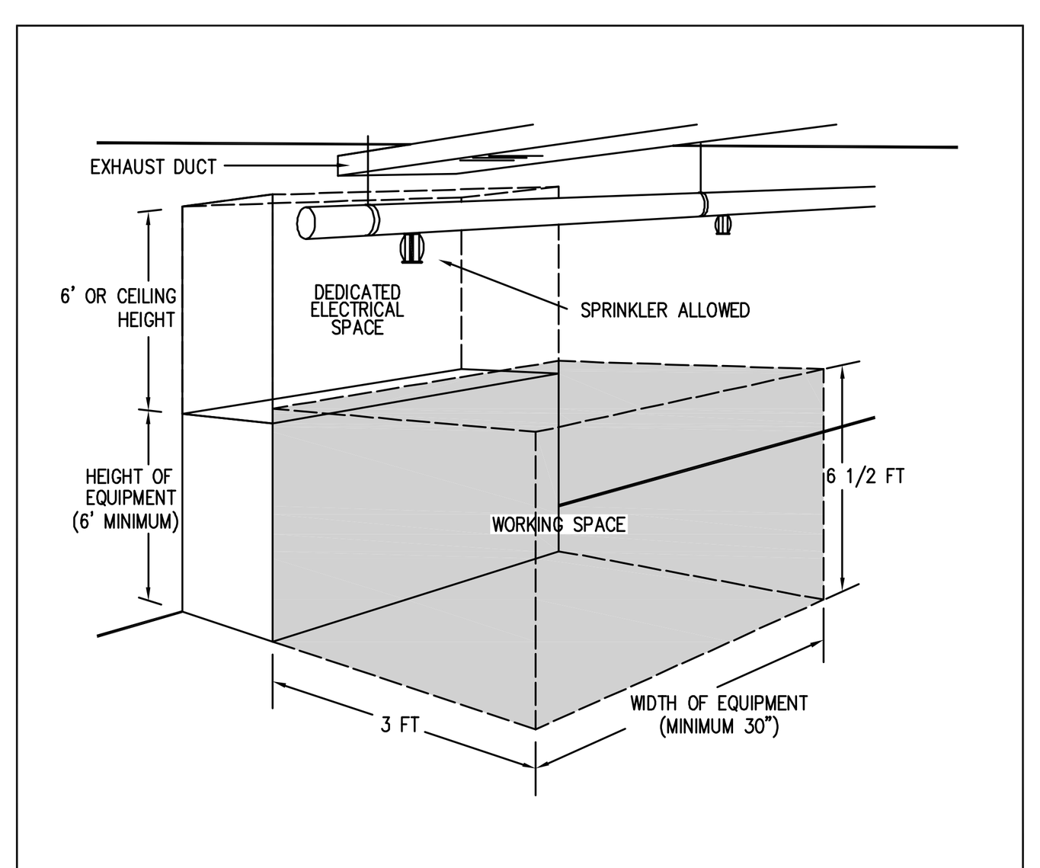
TYPICAL BRANCH CIRCUIT LENGTH DETAIL

NOT TO SCALE



TYPICAL ROUGH-IN DETAIL

NOT TO SCALE



REQUIRED INDOOR INSTALLATION SPACES FOR ELECTRICAL EQUIPMENT

NOT TO SCALE

MECHANICAL EQUIPMENT SCHEDULE

	NAME OF MECHANICAL EQUIPMENT	FURNACE	FURNACE	CONDENSING UNIT	CONDENSING UNIT	EXHAUST FAN	EXHAUST FAN	WATER HEATER
	EQUIPMENT NO.	F-1,2	F-3,4	CU-1,2	CU-3,4	EF-1,3	EF-2	WH-1
	RATING/WATTS	1 HP	1/2 HP	5 TON	3.5 TON	54	130	3KW
	VOLTAGE	208	208	208	208	120	120	208
	PHASE	1	1	1	1	1	1	1
MOTOR DATA	AMPS	8.0	5.0	34.2	23.5	0.5	1	14.4
	WIRE SIZE	2#12	2#12	2#8	2#8	2#12	2#12	2#12
	GROUND WIRE	1#12	1#12	1#10	1#10	1#12	1#12	1#12
	CONDUIT SIZE	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"
	FUSE DISC. SW.	30	30	60	60			30
	TYPE RKI FUSES	10	10	50	40			20
	BREAKER SIZE	20	20	50	40	20	20	20
	CIRCUIT							
	NOTES	1	1	1	1	2	2	1

NOTES:
1 STARTER IS FURNISHED WITH THE UNIT. PROVIDE SITE DISCONNECT.
2 PROVIDE THERMAL OVERLOAD SWITCH.

LIGHT FIXTURE SCHEDULE

TYPE	DESCRIPTION	LAMP	MANUFACTURERS	CATALOG NUMBERS
T-1	2'X4' FLUORESCENT LIGHT FIXTURE. RT5 SYLE. LOW BALLAST FACTOR.	2F32W T8 HIGH LUMEN	COLM	EPC24-232G-DL-ELWU
T-2	4'/8' DIRECT/INDIRECT FLUORESCENT LIGHT FIXTURE. LOW BALLAST FACTOR.	2F32W T8 HIGH LUMEN	LEDA	7306-T02-I-G-1-U-E-W
T-3	OVER-THE-MIRROR WALL MOUNTED LIGHT FIXTURE WITH UP/DOWN LIGHTING. LOW BALLAST FACTOR.	F32W T8 HIGH LUMEN	ALER	MDI-A-*-1U1DT8-WM-M4R-ELWU-*
T-4	WALL MOUNTED BELL SHAPE EXTERIOR LIGHT FIXTURE.	CF32W	HILI	H-1214-**-FR-B-1-**/DCC-**-32/CFL-BC M-M
T-5	4' FLUORESCENT STRIPLIGHT WITH WIRE GUARD. LOW BALLAST FACTOR.	F32W T8 HIGH LUMEN	COLM	CS4-132-EPU-CSWG4
T-6	4" RECESSED WALL WASHER.	35W MR16	EURE	1030-SFBA-1600C-9.43
T-7	8' APERTURE RECESSED DOWNLIGHT.	CF32W	PRES	CFT832EB-STF802
T-7A	SAME AS T-7 EXCEPT WITH SHALLOW DEPTH. MAXIMUM DEPTH 4.5".	CF32W	SPECTRUM	SGS8H-132-EX-AR8315-CL
T-8	8' APERTURE RECESSED DOWNLIGHT WITH DECORATIVE BOWL.	2CF32W	SPEC	SGM8H-2-32-EX-AR8435-CL-DSRB-24-**
EX-1	GREEN LED EXIT SIGN WITH BATTERY PACK	INCLUDED	DUAL	CV3GEW
			LOL	
			ISOLITE	

NOTES:
1. ALL FLUORESCENT LIGHTS SHALL HAVE BALLASTS WITH ELECTRONIC PROGRAMMABLE START, MINUMUM POWER FACTOR OF 95%, LOW BALLAST FACTOR OF .78, AND 10% TOTAL HARMONIC DISTORTION. UNIVERSAL, ADVANCE, AND HOWARD ARE APPROVED MANUFACTURERS. BALLAST TO HAVE 5 YEAR WARRANTY.
2. ALL FLUORESCENT LAMPS SHALL BE HIGH LUMEN AND HAVE 4100° COLOR TEMPERATURE.
3. FIELD VERIFY ALL LIGHTING VOLTAGES PRIOR TO PLACING ANY ORDER.
4. THE WRITTEN CRITERIA OF THE FIXTURE DESCRIPTION TAKES PRECEDENCE OVER THE CATALOG NUMBER.
5. ALL MR16 LAMPS SHALL HAVE BOTTOM LENS AND BE RATED AT 10,000 HOURS.
6. ALL METAL HALIDE LAMPS TO BE PULSE START.
7. PROVIDE ADDITIONAL BALLAST FOR EMERGENCY LIGHT FIXTURES. REFER TO LIGHTING SHEETS.
8. ALL FLUORESCENT FIXTURES SHALL HAVE INTERNAL QUICK DISCONNECTS AS PER NEC 410.73G.

ELECTRICAL SYMBOLS LIST

SYMBOL	DESCRIPTION
	LIGHTING SYMBOLS
	RECESSED FLUORESCENT FIXTURE
	SURFACE MOUNTED FLUORESCENT FIXTURE
	INDUSTRIAL STRIP LIGHT
	RECESSED FIXTURE
	WALL MOUNTED FIXTURE
NL	LIGHT FIXTURE WITH NIGHT LIGHT
	SURFACE FIXTURE
	WALL SCONCE FIXTURE
	PENDANT MOUNTED FIXTURE
E	FIXTURE ON EMERGENCY POWER
	EXIT LIGHT. ARROWS SHOW EXIT DIRECTION
T-X	LIGHTING FIX CALL OUT. NUMBER INDICATES A SUGGESTED QUANTITY- TO BE VERIFIED
X	REFERENCE NOTES CALL OUT
	INCANDESCENT TRACK AND FIXTURE
$	SINGLE POLE TOGGLE SWITCH - 20 AMP
$a,b	SINGLE POLE TOGGLE SWITCH - 20 AMP LETTERS INDICATE SWITCH ASSIGNMENT
$3 a,b	THREE WAY TOGGLE SWITCH - 20 AMP LETTERS INDICATE SWITCH ASSIGNMENT
$p a,b	SINGLE POLE PILOT SWITCH - 20 AMP, LETTER INDICATE SWITCH ASSIGNMENT
$ov	OVERRIDE SWITCH - 20 AMP
D	LOW PROFILE SLIDE DIMMER- SUITABLE FOR THE LOAD
	POWER SYMBOLS
	DUPLEX CONVENIENCE OUTLET - 20 AMP
	DUPLEX CONVENIENCE OUTLET - 20 AMP GFI,
EWC	DUPLEX CONVENIENCE OUTLET - 20 AMP ELECTRIC WATER COOLER
	FOUR - PLEX CONVENIENCE OUTLET - 20 AMP
	SPECIAL PURPOSE THREE PHASE OUTLET
J	JUNCTION BOX - SIZE AND FUNCTION AS REQUIRED
	EACH ARROW INDICATES A HOME RUN. RUN GROUND CONDUCTOR REGARDLESS OF CONDUIT TYPE. NUMBER OF CONDUCTORS AS REQUIRED
	FUSED DISCONNECT SWITCH - SIZE AS REQUIRED
	FLUSH TELEPHONE, DATA OUTLET
	FLUSH TELEPHONE OUTLET
	FLUSH DATA OUTLET
	MOTOR LOCATION
XX-1	MECHANICAL EQUIPMENT CALL OUT
$T	MANUAL DISCONNECT WITH THERMAL OVERLOAD PROTECTION
	ELECTRICAL PANEL LOCATION
TTB	TELEPHONE TERMINAL BOARD
	DUAL TECH WALL MOUNTED OCCUPANCY SENSOR TO CONTROL LIGHTING IN THE ROOM
	DUAL TECH CEILING MOUNTED OCCUPANCY SENSOR TO CONTROL LIGHTING IN THE ROOM
M	ELECTRICAL METER LOCATION
	SPECIAL SYSTEMS SYMBOLS
TV	J-BOX FOR TELEVISION, MOUNTED AT 90" AFF UNLESS INDICATED OTHERWISE. RUN 3/4" CONDUIT TO NEAREST ACCESSIBLE CEILING SPACE.
	GENERAL NOTE SYMBOLS
WP	INDICATES WEATHER PROOF EQUIPMENT
A	INDICATES DEVICE IS ABOVE COUNTER TOP-42" AFF REFER TO ARCHITECTURAL ELEVATION
WG	INDICATES DEVICES WITH LOW PROFILE WIRE GUARD. SUBMIT APPROVAL
CLG	INDICATES DEVICES MOUNTED ON THE CEILING, COORDINATE LOCATION WITH THE ARCHITECT.
P/F	DEDICATED OUTLET FOR PRINTER/FAX
	ABBREVIATIONS
H.D.	HAND DRYER
D.O.	DOOR OPENER
DISP	DISPOSAL

GENERAL NOTES:

1. THE COLOR OF ALL THE NEW DEVICES AND COVER PLATES SHALL BE COORDINATED WITH ARCHITECT.
2. REFER TO THE ARCHITECTURAL REFLECTED CEILING PLANS FOR THE EXACT LOCATION.
3. THE COLOR OF THE LIGHT FIXTURES SHALL BE SELECTED BY THE ARCHITECT.
4. MINIMUM SIZE OF CONDUIT IS 3/4". A 1/2" CONDUIT MAY BE USED FOR CONTROL CABLES.
5. USE RIGID STEEL, SET SCREW TYPE FITTINGS ONLY. DIE CAST FITTING SHALL NOT BE USED.
6. SUPPORT THE LAY-IN TYPE FIXTURES FROM THE CEILING DECK INDEPENDENT OF THE CEILING GRID. AS SHOWN ON THE TYPICAL RECESSED FIXTURE MOUNTING DETAIL.
7. ALL NEW WORK MUST MEET THE CURRENT ADOPTED NATIONAL ELECTRICAL CODE.
8. NOT MORE THAN THREE (3) CIRCUITS SHALL BE INSTALLED IN A 3/4" CONDUIT.
9. THE SIZE OF THE NEUTRAL CONDUCTORS SHALL BE A NO. 10 AWG MINIMUM FOR ALL HOMERUNS WITH A COMMON NEUTRAL (LIGHTING AND POWER CIRCUITS).
10. THE MINIMUM SIZE OF THE CONDUCTORS SHALL BE A NO. 12 AWG, THHN COPPER. UNLESS INDICATED OTHERWISE THE DRAWINGS.
11. ALL PANEL BOARDS SHALL HAVE FULL SIZED ISOLATED NEUTRAL AND GROUNDED BUSBAR.
12. ALL J-BOXES SHALL HAVE A MINIMUM DEPTH OF 2-1/8" UNLESS OTHER WISE SPECIFIED. SECURE ALL J-BOXES AS SHOWN IN THE DETAILS. FURNISH AND INSTALL PROPER MUD RINGS.
13. ALL THE HOMERUNS MUST BE ACCESSIBLE. DO NOT CARRY A HOMERUN FROM ONE DEVICE TO ANOTHER WHICH IS TIED TO A SEPARATE HOMERUN INSIDE THE WALL. MARK ON ALL THE J-BOXES THE CIRCUIT NAMES AND NUMBERS. USE NO. 10 THHN CONDUCTORS FOR HOMERUNS OVER 100 FEET IN LENGTH, NO. 8 THHN FOR OVER 200 FEET, AND NO. 4 THHN FOR OVER 400 FEET.
14. COORDINATE WITH THE OWNER AND ARCHITECT FOR THE EXACT LOCATION OF THE OUTLETS.
15. LIGHT SWITCHES INSTALLED ADJACENT TO EACH OTHER, SHALL BE GANGED TOGETHER WITH A ONE PIECE COVERPLATE.
16. USE EPOXY ANCHORS TO SUPPORT THE ELECTRICAL EQUIPMENT. EXPANSION ANCHOR BOLTS ARE NOT ACCEPTABLE.
17. AT THE END OF THE JOB, PROVIDE BLANK, MATCHING COVERPLATES FOR ALL J-BOXES WHERE DEVICES HAVE NOT YET BEEN INSTALLED.
18. SEAL AROUND ALL CONDUIT PENETRATIONS THROUGH WALLS AND CEILINGS WITH A FIRE RATED MATERIAL. 3M IS AN APPROVED MANUFACTURER.
19. ALL DISCONNECTS SHALL BE OF A HEAVY DUTY TYPE.
20. ALL MATERIALS USED IN INSTALLATION SHALL BE U.L. APPROVED AND NEW.
21. ALL ELECTRICAL WIRING MUST BE IN A CONDUIT (ROMEX NOT PERMITTED).
22. NO CONDUITS SHALL RUN IN DUCT WORK.
23. PRIOR TO SUBMITTAL FOR A BID THE ELECTRICAL CONTRACTOR SHALL INSPECT THE SITE AND INCLUDE IN THEIR BID PACKAGE ALL CHARGES DUE TO EXISTING CONDITIONS. SHOP DRAWINGS ARE REQUIRED. ALL LABOR, MATERIALS AND WORKMANSHIP SHALL BE GUARANTEED FOR A PERIOD OF 1 YEAR FROM THE DATE OF ACCEPTANCE BY THE TENANT. REPLACE OR REPAIR ALL DEFECTS DURING THE GUARANTEED PERIOD.
24. THE ELECTRICAL CONTRACTOR SHALL TERMINATE THE ELECTRICAL COLLECTIONS TO ALL THE EQUIPMENT BY PROVIDING THE NECESSARY MALE/ FEMALE CONNECTOR, RECEPTACLE, PLUG, ETC.
25. ALL DUPLEX OUTLETS AND SWITCHES SHALL BE 20 AMP, 120 VOLT SPEC GRADE. HUBBELL AND PASS & SEYMOUR AND LOCATION ARE APPROVED MANUFACTURERS.
26. THE ELECTRICAL CONTRACTOR SHALL NOTIFY AND COORDINATE WITH THE MECHANICAL CONTRACTOR SO THAT NO PIPING, DUCTS, OR OTHER EQUIPMENT SHALL BE INSTALLED IN THE ENTRY, PASS THROUGH ELECTRICAL ROOM OR SPACES ABOVE OR BELOW ELECTRICAL PANELS.
27. THE ELECTRICAL CONTRACTOR SHALL VERIFY ALL ELECTRICAL LOADS (VOLTAGE, PHASE, CONNECTION REQUIREMENT, ETC.) OF EQUIPMENT FURNISHED UNDER OTHER DIVISIONS WITH APPROVED SHOP DRAWINGS.
28. THE CONTRACTOR SHALL INFORM THE ARCHITECT/ ENGINEER, IN WRITING, OF ANY DISCREPANCIES FOUND BETWEEN THE INTENDED FUNCTION OF EQUIPMENT AND EQUIPMENT SPECIFIED IN THE CONTRACT DOCUMENTS WITH A MINIMUM OF FIVE (5) WORKING DAYS PRIOR TO ISSUANCE OF THE FINAL ADDENDUM. FAILURE TO REPORT ANY DISCREPANCY(CATALOG NUMBERS, DISCONTINUED ITEMS, ETC.) DOES NOT RELIEVE THE CONTRACTOR FROM PROVIDING EQUIPMENT WHICH SHALL CONFORM TO AND FULFILL THE INTENT OF THE CONTRACT DOCUMENTS. NOR SHALL IT BE USED AS A CONDITION TO OBTAIN ADDITIONAL FUNDS FROM THE OWNER AFTER THE CONTRACT IS AWARDED. THE CONTRACTOR SHALL REQUEST ALL CLARIFICATIONS OF CONTRACT DOCUMENT REQUIREMENTS, IN WRITING, TO THE ARCHITECT/ ENGINEER WITH A MINIMUM OF FIVE (5) WORKING DAYS PRIOR TO ISSUANCE OF THE FINAL ADDENDUM.
29. PROVIDE A TYPED LABEL FOR ALL DUPLEX OUTLETS AND LIGHT SWITCHES TO INDICATE WHICH CIRCUIT THEY ARE TIED TO.
30. IF POSSIBLE, MOUNT EXIT SIGN INDICATED NEAR A WALL ON THE WALL.
31. SWITCHBOARDS, PANELBOARDS, AND MOTOR CONTROL CENTERS SHALL BE FIELD MARKED TO WARN QUALIFIED PERSONS OF POTENTIAL ELECTRIC ARC FLASH HAZARDS. THE MARKING SHALL BE LOCATED SO AS TO BE CLEARLY VISIBLE TO QUALIFIED PERSON'S BEFORE EXAMINATION, ADJUSTMENT, SERVICING, OR MAINTENANCE OF THE EQUIPMENT. (NEC 110-16)
32. THE CONTRACTOR IS ALLOWED TO UTILIZE MC CABLE WITH GROUND IN A CONCEALED AREA ONLY.
33. CONTRACT DOCUMENTS SHALL TAKE PRECEDENCE OVER SHOP DRAWINGS UNLESS SPECIFICALLY NOTED OTHERWISE.
34. DETAILS ARE SHOWN ON DIFFERENT SHEETS. THE CONTRACTOR SHALL REFER TO THOSE DETAILS WHETHER OR NOT CALLED IN REFERENCE NOTES.
35. LIGHT FIXTURES PENETRATING FIRE RATED CEILING/WALL SHALL BE PROVIDED WITH A FIRE RATED TENT. COORDINATE WITH GENERAL CONTRACTOR FOR MORE INFORMATION.
36. PROVIDE WARNING TAPE OVER ALL UNDERGROUND POWER CABLES SHOWN ON SITE PLAN.
37. ALL DISCONNECTS, J-BOXES, AND CONDUITS EXPOSED TO THE OUTSIDE WEATHER SHALL BE OF A NON-CORROSIVE, WEATHER PROOF TYPE.
38. ALL UNDERGROUND CONDUITS SHALL BE BURIED 24 INCHES MINIMUM UNDER THE GROUND.
39. THE FIRST 10 FEET OF ALL BURIED CONDUITS, 1 INCH AND OVER IN DIAMETER, ARE TO BE RIGID GALVANIZED STEEL WHERE THEY ARE ENTERING OR LEAVING THE BUILDING, MAN-HOLE, VAULT, ETC. ALL METALLIC UNDERGROUND CONDUITS SHALL HAVE PVC COATING.
40. ALL NEW EXPOSED CONDUITS MUST RUN AGAINST THE WALL OR CEILING. DO NOT PENDANT MOUNT ANY CONDUIT FROM THE CEILING.
41. ALL CONDUITS EXPOSED TO THE WEATHER AND IN THE MECHANICAL ROOM SHALL BE GALVANIZED RIGID STEEL UNLESS OTHER WISE NOTED.
42. ALL METALLIC CONDUITS, JOINTS, FITTINGS, ETC. IN CONTACT WITH THE GROUND SHALL BE SPIRAL WRAPPED WITH 3M SCOTCHRAP-51, 20 MIL TAPE (OR APPROVED EQUAL). 1/2" OVERLAP IS REQUIRED.
43. PROVIDE TYPED INDEX SCHEDULE FOR ALL PANELS. LABEL WITH PROJECT DATE.

NEW PANEL M1

AMPS 125 MAIN LUGS ONLY VOLTS 120 / 240 PHASE 1 # OF WIRES 3 MOUNTING RECESSED LOCATION UPSTAIRS CORRIDOR

BREAKER A	P	DESCRIPTION	TYPE	EXIST /NEW	CIRCUIT VA	NO	PHASE LOADS A	B	CIRCUIT NO	VA	EXIST /NEW	TYPE	DESCRIPTION	BREAKER A	P
20	1	OFFICE RECPTACLES	R	N	1260	1	2305		2	1045	N	L	LIGHTING - NE CORNER	20	1
20	1	PRINTER/COPIER	N	N	500	3		1890	4	1390	N	L	LIGHTING - NORTH SIDE	20	1
20	1	REFRIGERATOR	K	N	1000	5	1805		6	805	N	L	LIGHTING - SE CORNER	20	1
20	1	BREAK ROOM RECPT	R	N	360	7		745	8	385	N	L	LIGHTING - CORRIDOR	20	1
20	1	VENDING MACHINE	N	N	500	9	500		10		E	N	EXISTING	20	1
20	1	OFFICE/RECEPTION RECPTACLES	R	N	1800	11		1800	12		E	N	EXISTING	20	1
20	1	SYSTEM FURNITURE	N	N	400	13	400		14		E	N	EXISTING	20	1
20	1	OFFICE RECPTACLES	R	N	1620	15		1620	16		E	N	EXISTING	20	1
20	1	CORRIDOR RECPT	R	N	360	17	360		18		E	N	EXISTING	20	1
20	1	OFFICE RECPTACLES	R	N	2160	19		2160	20		E	N	EXISTING	20	1
20	1	RESTROOM RECPT	R	N	180	21	180		22		E	N	EXISTING	20	1
20	1	SYSTEM FURNITURE	N	N	400	23		400	24	0	N	N	SPARE	20	1
20	1	DOOR OPENER	M	N	1000	25	1000		26	0	N	N	SPARE	20	1
20	1	CONFERENCE ROOM RECP	R	N	1000	27		1000	28	0	N	N	SPARE	20	1
20	1	SPARE	N	N	0	29	0		30	0	N	N	SPARE	20	1
20	1	BREAK ROOM RECPT	R	N	400	31		400	32	0	N	N	SPARE	20	1
20	1	SPARE	N	N	0	33	0		34	0	N	N	SPARE	20	1
20	1	SPARE	N	N	0	35		0	36	0	N	N	SPARE	20	1
20	1	SPARE	N	N	0	37	0		38	0	N	N	SPARE	20	1
20	1	SPARE	N	N	0	39		0	40	0	N	N	SPARE	20	1
20	1	SPARE	N	N	0	41	0		42	0	N	N	SPARE	20	1
AIC 22KA		STYLE NL					6550	10015					TOTAL CONNECTED LOAD 16565 VA / 69 AMPS		

TYPE	CONNECTED	QTY	ADJUST. FACTOR	TOTAL	NEC ART.
L/C = LIGHTING & CONTINUOUS	3625	N/A	1.25	4531.25 VA	210-20
LM = LARGEST MOTOR	0	N/A	1.25	0 VA	
M/N = MOTORS & NON-CONT.	2800	N/A	1	2800 VA	
R = RECEPTACLE	9140	N/A	1	9140 VA	220-44
K = KITCHEN EQUIPMENT	1000	1	1	1000 VA	220-56

TOTAL NEW CONNECTED LOAD 16565 VA 69 AMPS

TOTAL CALCULATED LOAD 17471.25 VA 73 AMPS

NEW PANEL "B1"

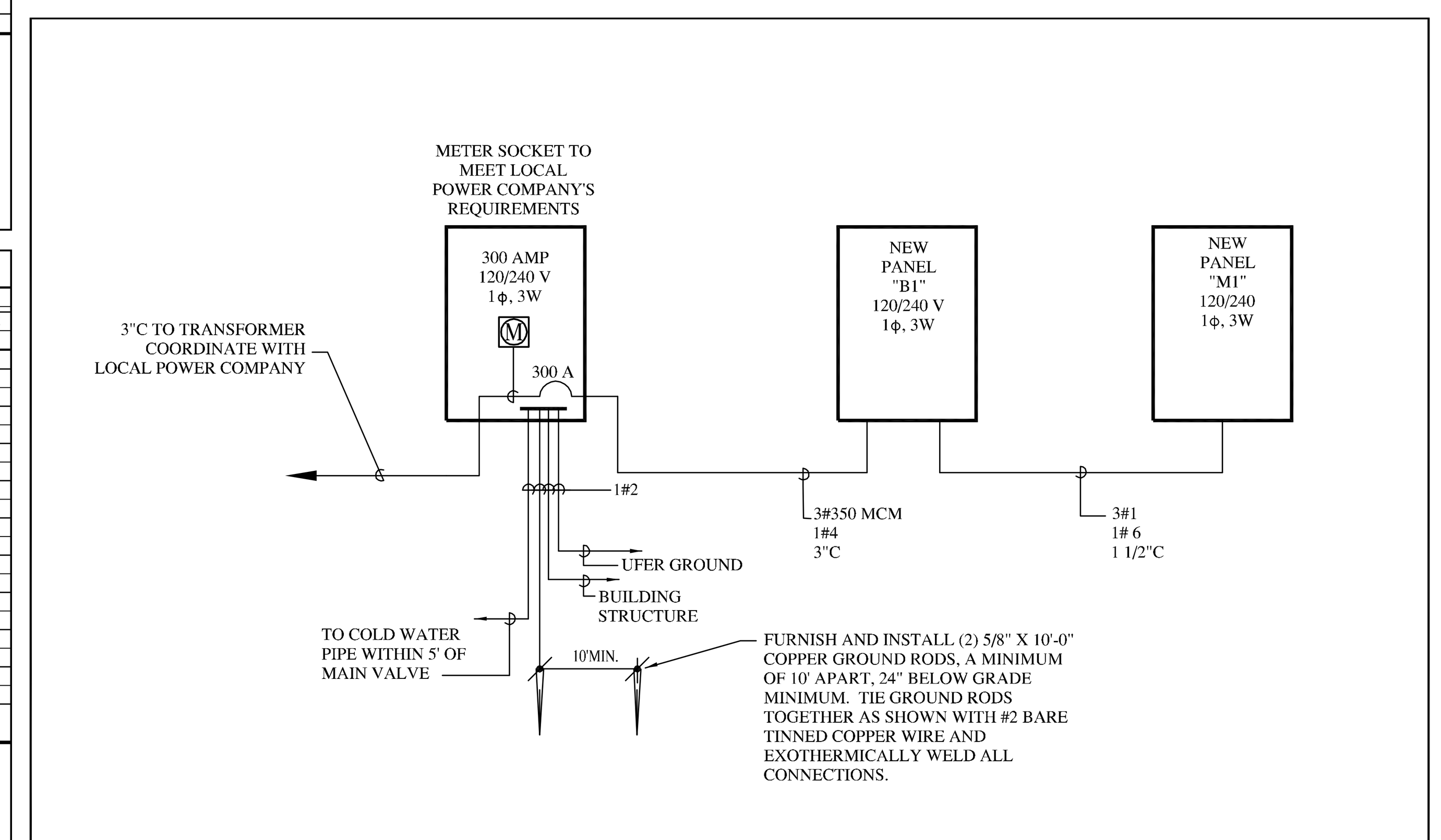
AMPS 400 MAIN LUGS ONLY VOLTS 120 / 240 PHASE 1 # OF WIRES 3 MOUNTING RECESSED LOCATION MECHANICAL ROOM

BREAKER A	P	DESCRIPTION	TYPE	EXIST /NEW	CIRCUIT VA	NO	PHASE LOADS A	B	CIRCUIT NO	VA	EXIST /NEW	TYPE	DESCRIPTION	BREAKER A	P
50	2	CU-1	LM	N	4104	1	5389		2	1285	N	L	LIGHTING - EAST SIDE	20	1
			LM	N	4104	3		5154	4	1050	N	L	LIGHTING - WEST SIDE	20	1
50	2	CU-2	M	N	4104	5	4604		6	500	N	M	INVERTERS	20	1
			M	N	4104	7		4504	8	400	N	N	SYSTEM FURNITURE	20	1
40	2	CU-3	M	N	2820	9	3220		10	400	N	N	SYSTEM FURNITURE	20	1
			M	N	2820	11		3420	12	600	N	N	SYSTEM FURNITURE	20	1
40	2	CU-4	M	N	2820	13	3420		14	600	N	N	SYSTEM FURNITURE	20	1
			M	N	2820	15		3220	16	400	N	N	SYSTEM FURNITURE	20	1
20	2	F-1	M	N	832	17	2272		18	1440	N	R	OFFICE RECPTACLES	20	1
			M	N	832	19		2272	20	1440	N	R	CORRIDOR AND OFFICE RECPT	20	1
20	2	F-2	M	N	832	21	2332		22	1500	N	M	ACCESSIBLE LIFT	20	1
			M	N	832	23		1012	24	180	N	R	RESTROOM RECPT	20	1
20	2	F-3	M	N	520	25	1420		26	900	N	R	OFFICE AND MECH RECPT	20	1
			M	N	520	27		920	28	400	N	N	SYSTEM FURNITURE	20	1
20	2	F-4	M	N	520	29	700		30	180	N	R	EXTERIOR RECPT	20	1
			M	N	520	31		520	32	0	N	N	SPARE	20	1
20	2	WH-1	M	N	1500	33	1500		34	0	N	N	SPARE	20	1
			M	N	1500	35		1500	36	0	N	N	SPARE	20	1
20	1	TTB	R	N	400	37	400		38	0	N	N	SPARE	20	1
20	1	DOOR OPENER	M	N	1000	39		1000	40		N	N	PANEL M1	125	2
20	1	EXTERIOR EMERGENCY LIGHTING	L	N	200	41	200		42		N	N			
AIC 22KA		STYLE NL					25457	23522					TOTAL CONNECTED LOAD 48979 VA / 204 AMPS		

TYPE	CONNECTED	QTY	ADJUST. FACTOR	TOTAL	NEC ART.
L/C = LIGHTING & CONTINUOUS	2535	N/A	1.25	3168.75 VA	210-20
LM = LARGEST MOTOR	8208	N/A	1.25	10260 VA	
M/N = MOTORS & NON-CONT.	33696	N/A	1	33696 VA	
R = RECEPTACLE	4540	N/A	1	4540 VA	220-44
K = KITCHEN EQUIPMENT	0	0	0	0 VA	220-56

TOTAL NEW CONNECTED LOAD 48979 VA 204 AMPS

TOTAL CALCULATED LOAD 51664.75 VA 215 AMPS



POWER SINGLE LINE DIAGRAM

NOT TO SCALE

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UTAH VALLEY UNIVERSITY
MURDOCK GUEST HOUSE ADAPTIVE RE-USE
519 WEST 1200 SOUTH OREM UTAH

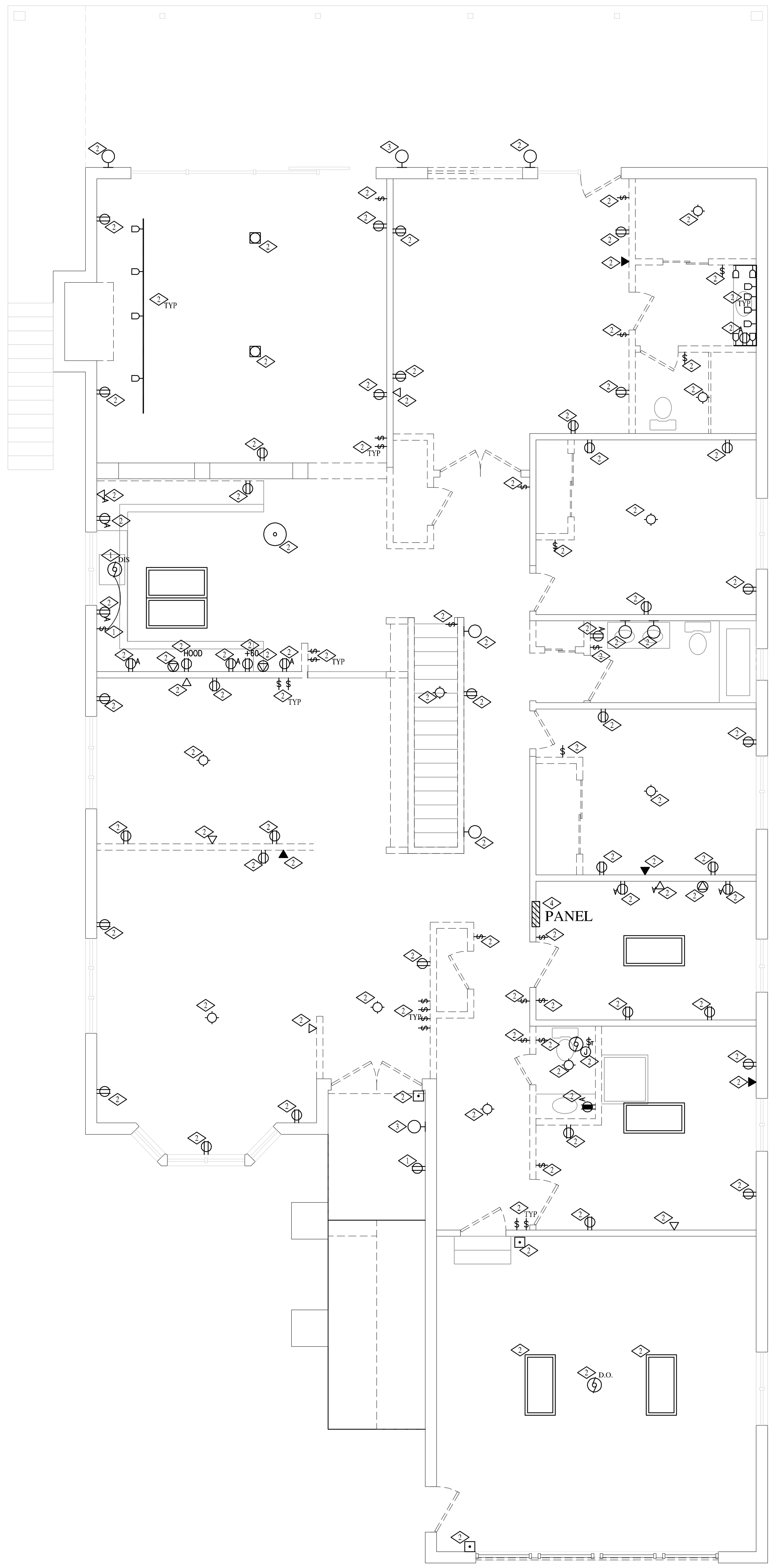
PHASE

DATE
12-19-2008

DRAWING
DETAILS, SCHEDULES, GENERAL NOTES, AND SYMBOLS LIST

SHEET #
EE001

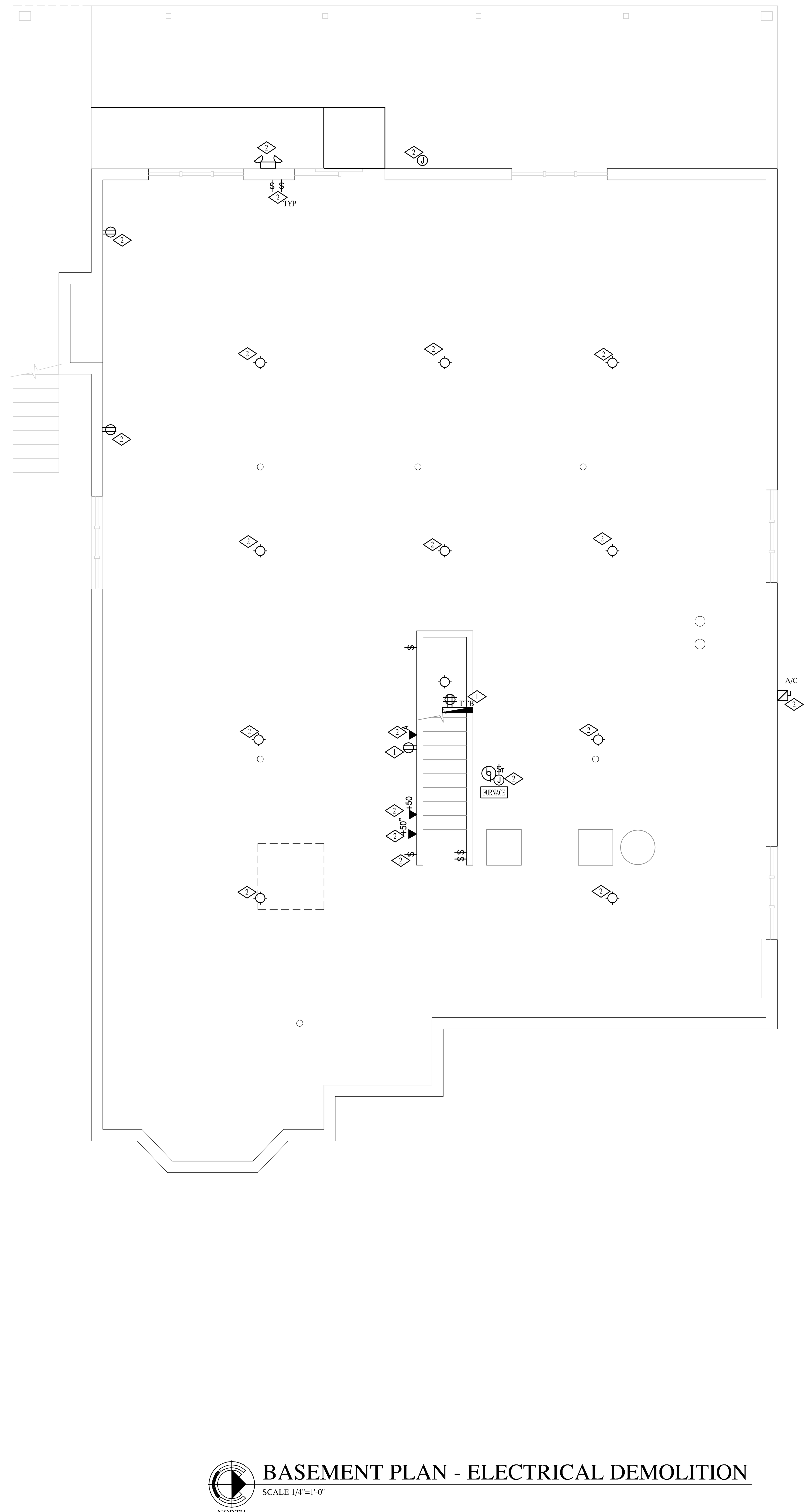
EELD #259



FIRST FLOOR PLAN - ELECTRICAL DEMOLITION

SCALE 1/4"=1'-0"

NORTH



BASEMENT PLAN - ELECTRICAL DEMOLITION

SCALE 1/4"=1'-0"

NORTH

REFERENCE NOTES:

1. EXISTING DEVICES TO REMAIN. MAINTAIN CIRCUIT INTEGRITY.
2. EXISTING DEVICES TO REMOVED.
3. EXISTING DEVICES TO BE REMOVED. THE CONTRACTOR IS ALLOWED TO REUSE EXISTING CONDUIT IF POSSIBLE. FIELD VERIFY.
4. EXISTING PANEL TO BE REPLACED AND RELOCATED INTO HALLWAY. REFER TO SHEET EP-101 FOR NEW PANEL LOCATION.

DEMOLITION NOTES:

1. IN THE EXISTING SPACE TO BE RENOVATED, THE CONTRACTOR SHALL REMOVE ALL LIGHT FIXTURES, SWITCHES, WIRING, WIRING DEVICES, CONDUITS, FIRE ALARM DEVICES, SPEAKERS, VOLUME CONTROLS, ETC. AS REQUIRED WHETHER OR NOT SHOWN ON THE DRAWINGS. COORDINATE WITH THE GENERAL CONTRACTOR PRIOR TO ANY DEMOLITION WORK AND REINSTALL DEVICES ON THE NEW CEILING IF NECESSARY.
2. ALL MATERIALS THAT ARE TO BE REMOVED FROM THE PREMISES SHALL BE RETURNED TO THE OWNER. MATERIALS WHICH THE OWNER DECIDES NOT TO KEEP SHALL BE SALVAGED AND REMOVED FROM THE SITE BY THE CONTRACTOR.
3. ALL CONCEALED CONDUITS THAT CANNOT BE REMOVED SHALL BE CUT FLUSH WITH THE FINISHED SURFACES AND CAPPED OFF AFTER THE WIRING HAS BEEN DISCONNECTED AT THE PANEL AND REMOVED FROM THE CONDUIT.
4. IN AREAS WHERE CIRCUIT CONTINUITY IS INTERRUPTED, BUT MUST BE MAINTAINED BECAUSE OF THE NATURE OF THE FACILITY, MAKE ALL THE NECESSARY MODIFICATIONS TO THE CIRCUITS IN ORDER TO MAINTAIN THE CIRCUIT'S INTEGRITY.

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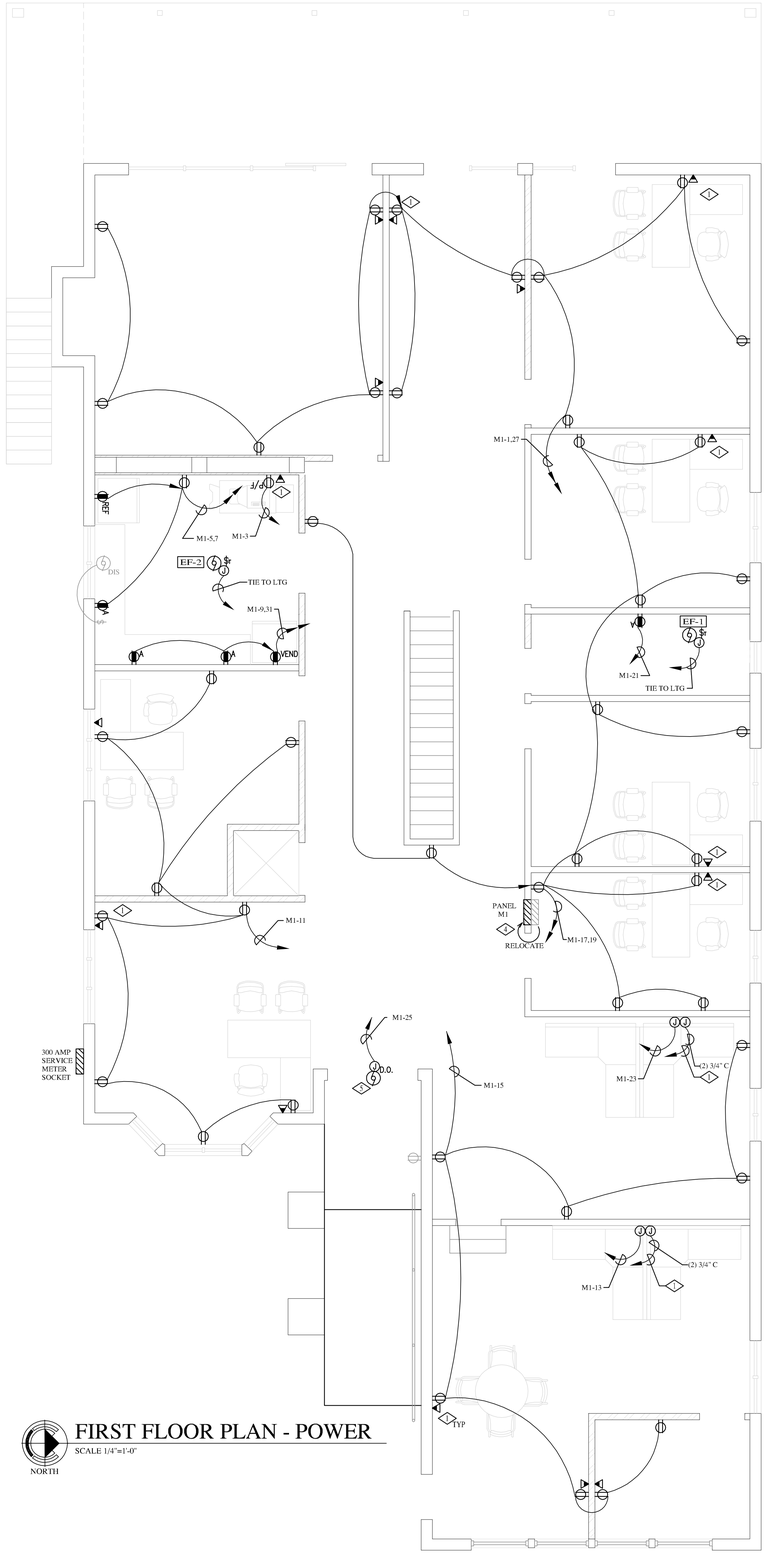
PHASE

DATE 12-19-2008

DRAWING FIRST FLOOR AND BASEMENT PLAN - DEMOLITION

SHEET # ED101

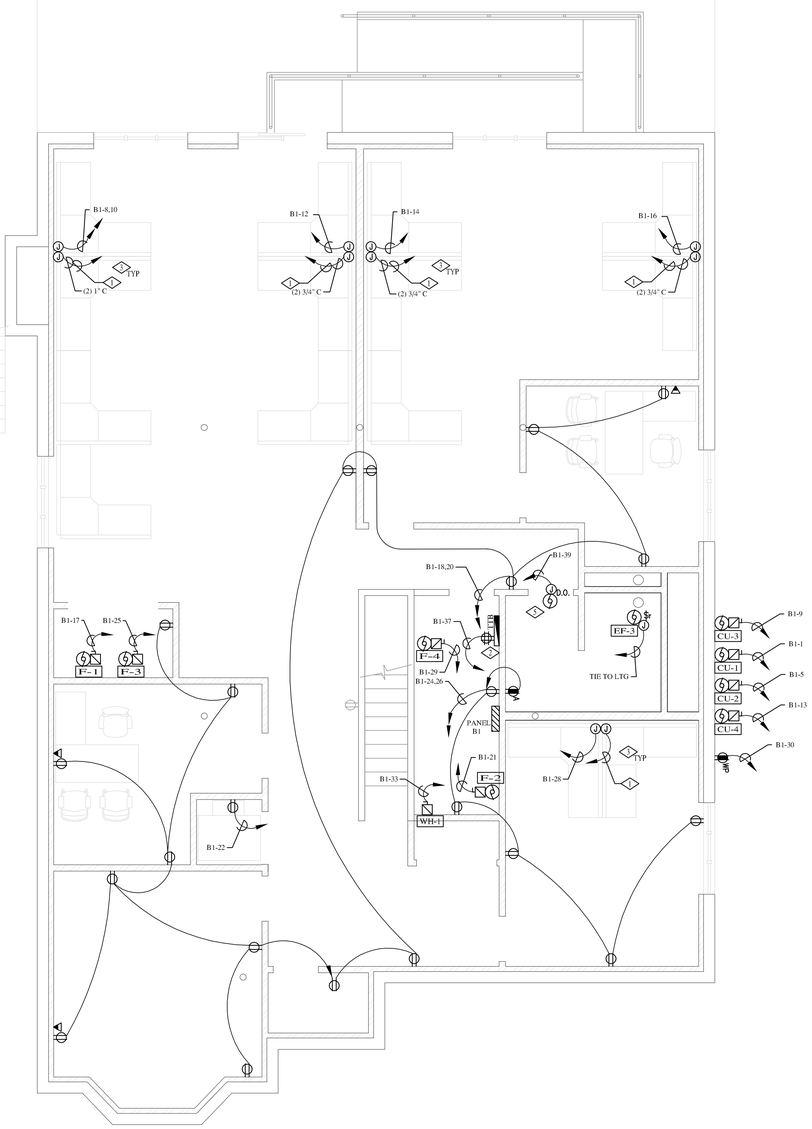
EELD #259



FIRST FLOOR PLAN - POWER

SCALE 1/4"=1'-0"

NORTH



BASEMENT PLAN - POWER

SCALE 1/4"=1'-0"

NORTH

REFERENCE NOTES: POWER

1. FURNISH AND INSTALL A 4"X4"X2-1/8" J-BOX IN THE APPROXIMATE LOCATION SHOWN FOR VOICE/DATA. RUN INDICATED SIZE AND QUANTITY OF CONDUIT WITH A PULL-STRING (MINIMUM OF TWO 3/4" CONDUIT WHERE VOICE/DATA OUTLET IS SHOWN) FROM THE J-BOX TO THE NEAREST ACCESSIBLE CEILING SPACE ON THIS FLOOR. COORDINATE WITH THE OWNER/ARCHITECT FOR EXACT LOCATION PRIOR TO ROUGH-IN.
2. FURNISH AND INSTALL A 4'X8'X3/4" PLYWOOD WITH TWO LAYERS OF FIRE RETARDANT PAINT IN THE APPROXIMATE LOCATION SHOWN FOR THE TELEPHONE TERMINAL BOARD (TTB). RUN A 4" CONDUIT WITH A PULL-STRING FROM THE TTB TO THE COMMUNICATION PEDESTAL OUTSIDE. COORDINATE THIS WORK WITH THE LOCAL COMMUNICATION COMPANY PRIOR TO RUNNING THE CONDUIT.
3. MAKE FINAL CONNECTION TO THE SYSTEM FURNITURE. COORDINATE WITH SUPPLIER PRIOR TO ROUGH-IN.
4. EXTEND EXISTING CIRCUITS AND FEEDERS IN EXISTING PANEL TO NEW LOCATION IN NEW PANEL. PROVIDE CONDUIT, CONDUCTORS, J-BOX, ETC. FOR A COMPLETE INSTALLATION. REPLACE THE EXISTING PANEL. REFER TO THE PANEL SCHEDULE.
5. FUNISH AND WIRE CONTROL SWITCHES PROVIDED BY SUPPLIER. COORDINATE THIS WORK WITH THE ARCHITECT.

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519 WEST 1200 SOUTH OREM UTAH

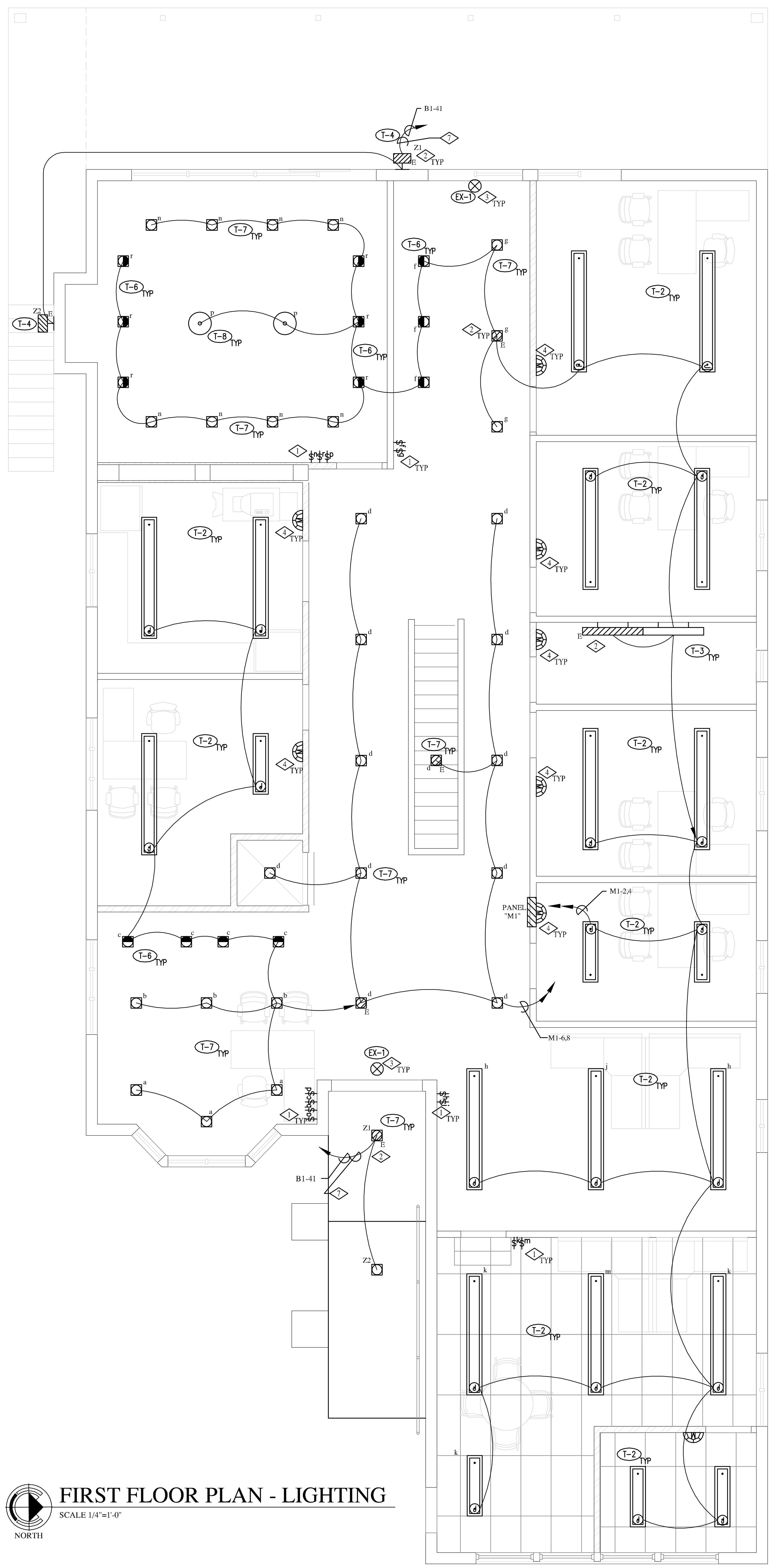
PHASE

DATE 9-19-2008

DRAWING FIRST FLOOR AND BASEMENT PLAN - POWER

SHEET # EP101

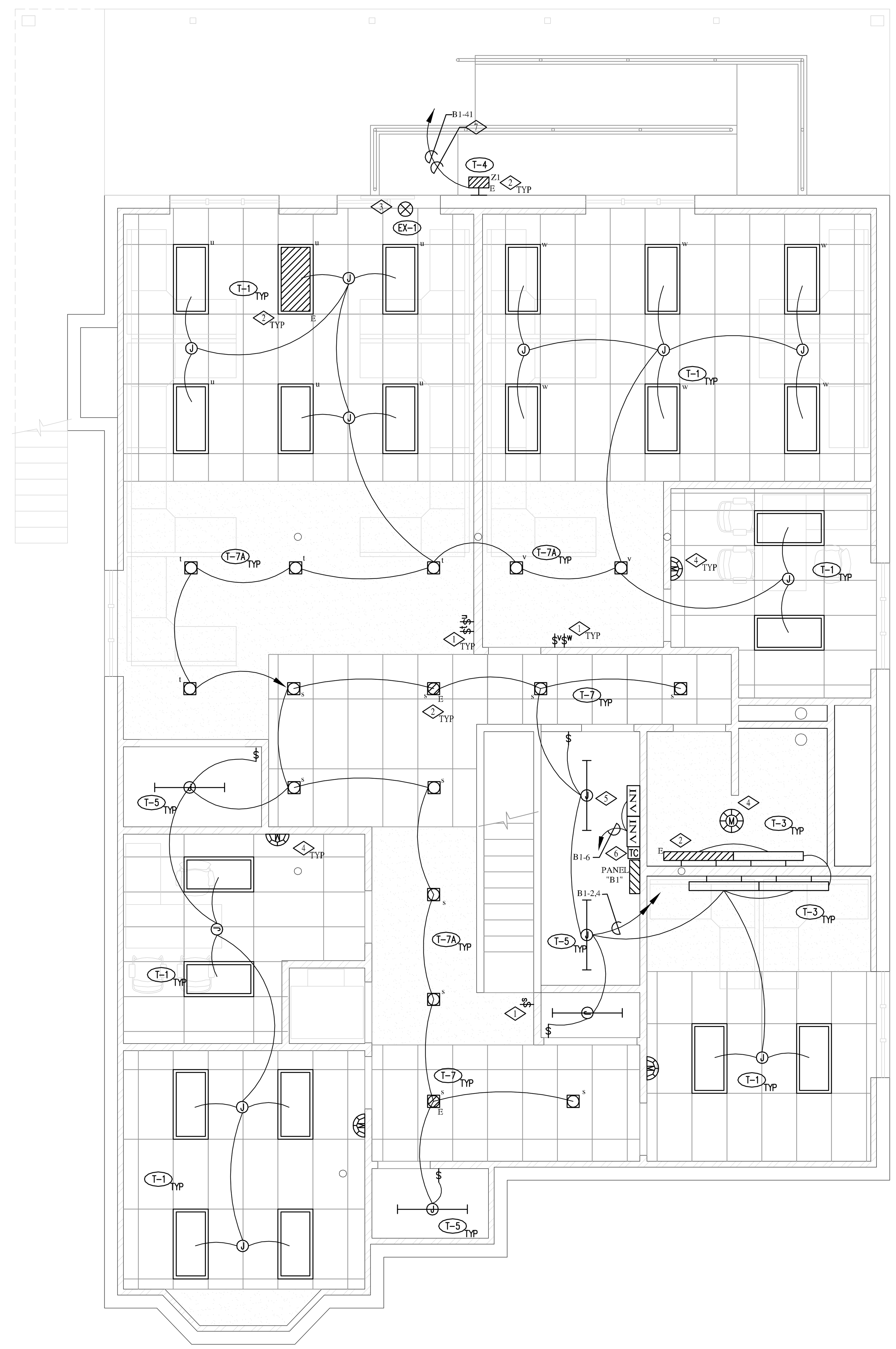
EELD #259



FIRST FLOOR PLAN - LIGHTING

SCALE 1/4"=1'-0"

NORTH



BASEMENT PLAN - LIGHTING

SCALE 1/4"=1'-0"

NORTH

REFERENCE NOTES: LIGHTING

1. TIE ALL FIXTURES INDICATED WITH A LOWER CASE LETTER TO ITS CORRESPONDING SWITCH(ES). PROVIDE CONDUITS, CONDUCTORS, LIGHTING CONTACTORS, ETC. FOR A COMPLETE INSTALLATION.

2. EMERGENCY LIGHT FIXTURES INDICATED WITH THE LETTER "E" SHALL BE PROVIDED WITH A SEPARATE BALLAST FOR THE CENTER LAMP. ONE LAMP IN THE LIGHT FIXTURE SHALL BE TIED TO THE EMERGENCY INVERTER AND TURN ON WHEN THE COMMERCIAL POWER FAILS REGARDLESS OF THE POSITION OF THE CONTROL SWITCH. ALL THE LAMPS IN THE FIXTURE SHALL BE CONTROLLED BY THE INDICATED SWITCH. PROVIDE CONDUITS, CONDUCTORS, ETC.. FOR A COMPLETE INSTALLATION. RUN THE EMERGENCY CIRCUIT IN A SEPARATE RACEWAY. PROVIDE RELAY EQUAL TO BODINE GTD.

3. TIE EMERGENCY LIGHT FIXTURES AND EXIT SIGNS TO AN UNSWITCHED EMERGENCY LIGHTING CIRCUIT. PROVIDE CONDUITS, CONDUCTORS, RELAY BALLAST'S, ETC. FOR A COMPLETE INSTALLATION.

4. FURNISH AND INSTALL A WALL MOUNTED MOTION SENSOR TO CONTROL THE LIGHT FIXTURES IN THE ROOM. SET THE TIME DELAY FOR 30 MINUTES. WATT STOPPER, LITHONIA, LEVITON, & SENSOR SWITCH ARE THE APPROVED MANUFACTURERS.

5. FURNISH AND INSTALL TWO 250 WATT EMERGENCY INVERTERS IN THE APPROXIMATE LOCATION TO FEED THE EMERGENCY LIGHTS. TIE THE EMERGENCY LIGHTS FIXTURE TO THE INVERTER UTILIZING SEPARATE RACE WAY THAN THE NORMAL LIGHTING CIRCUIT. CONDUIT, CONDUCTORS, RELAY, ETC., FOR A COMPLETE INSTALLATION. GUTH IS AN APPROVED MANUFACTURER.

6. FURNISH AND INSTALL A 2 ZONE DIGITAL ASTRONOMICAL TIME CLOCK WITH BATTERY BACKUP IN THE APPROXIMATE LOCATION SHOWN TO CONTROL THE EXTERIOR LIGHTING. PROGRAM THE TIME CLOCK AS PER OWNER'S REQUIREMENT. PROVIDE CONDUIT, CONDUCTORS, ETC., FOR A COMPLETE INSTALLATION. THE TIME CLOCK SHALL BE EQUAL TO LEVITION EZMAX-RE4BD-104 (120 VOLT).

7. TIE THE EXTERIOR LIGHT FIXTURE TO INDICATED CIRCUIT THROUGH THE TIME CLOCK ON THE ZONE SHOWN. PROVIDE CONDUIT, CONDUCTORS, RELAY, ETC., FOR A COMPLETE INSTALLATION.

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519 West 1200 South Orem Utah

PHASE

DATE 12-19-2008

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